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STAFF APPRAISAL REPORT

KOREA

URBAN LAND DEVELOPMENT PROJECT

May 8, 1986

Urban and Water Supply Division
East Asia and Pacific Projects Department

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CURRENCY EQUIVALENTS
(As of May 1, 1986)

Currency Unit	=	Won (W)
Won	=	\$0.00136
\$1.00	=	W 880 /1
W 1 million	=	\$1,136

FISCAL YEAR

January 1 - December 31

WEIGHTS AND MEASURES

1 meter (m)	=	3.28 feet
1 kilometer (km)	=	0.62 miles
1 square meter (sq m)	=	10.8 square feet (sq ft)
1 hectare (ha)	=	10,000 sq m or 2.471 acres or 3,024 pyongs (py)

ABBREVIATIONS AND ACRONYMS

CNB	=	Citizen's National Bank
EPB	=	Economic Planning Board
ERR	=	Economic Rate of Return
HPRC	=	Housing Policy Review Committee
ICB	=	International Competitive Bidding
ISWACO	=	Industrial Sites and Water Resources Development Corporation
KHB	=	Korea Housing Bank
KLDC	=	Korea Land Development Corporation
KNHC	=	Korea National Housing Corporation
KRIHS	=	Korea Research Institute for Human Settlements
LCB	=	Local Competitive Bidding
LTMP	=	Long-Term Management Plan
MOC	=	Ministry of Construction
MOF	=	Ministry of Finance
MOHA	=	Ministry of Home Affairs
NHF	=	National Housing Fund
OSROK	=	Office of Supply, Republic of Korea
p.a.	=	per annum
PSIDP	=	Policy Statement and Institutional Development Program

/1 In this report "\$" refers to US dollars.

KOREA

URBAN LAND DEVELOPMENT PROJECT

Loan and Project Summary

Borrower: Korea Land Development Corporation (KLDC).

Guarantor: Republic of Korea.

Amount: \$150 million equivalent.

Terms: Repayable in 15 years including 3 years of grace, at the standard variable interest rate.

Project

Description: The project would support a comprehensive program of institutional and policy development for KLDC, which includes strengthening of its financial management, studies on pricing and cost allocation for developed land, better accounting and management information systems, improved procedures for project selection and evaluation, the establishment of training programs and the adoption of land development goals for low-income housing. Loan funds would finance the foreign exchange cost of a four-year time slice (1986-89) of KLDC's programs to develop urban land on a national scale. This includes the acquisition of about 3,600 ha of land, the development and provision of infrastructure and services to about 2,700 ha of land for housing, and about 1,000 ha of land for industrial sites. The developed land would provide housing to about one million persons, about 520,000 of whom would be in the lower half of the income distribution.

Risks: There are no serious risks in the project. The risk that KLDC may be slower than anticipated in adopting institutional and policy reforms is minimized by the commitment of KLDC's management to the proposed institutional programs. Regular reviews of progress by the Bank and KLDC during project implementation would help ensure that institutional and policy reforms proceed on schedule. The proposed implementation schedule for land development is feasible based on previous project experience.

<u>Estimated Project Cost</u>	LOCAL	FOREIGN	TOTAL
	-----(\$ Million)-----		
Land Acquisition	1122.8	0.0	1122.8
Land Development	249.3	119.0	368.3
Engineering & Administration	13.2	4.4	17.6
Base Cost - January 1986 Prices	1385.3	123.4	1508.7
Physical Contingencies	69.2	6.2	75.4
Price Contingencies	244.5	20.4	264.9
<u>Project Cost a]</u>	1699.0	150.0	1849.0

Financing Plan

Proposed IBRD Loan	-	150.0	150.0
Other Loans	30.0	-	30.0
KLDC's Internal Cash Generation	1669.0	-	1669.0
Total Financing Requirements	1699.0	150.0	1849.0

	----- Bank Fiscal Years -----				
<u>Estimated Disbursements</u>	1987	1988	1989	1990	1991
	----- \$ Million -----				
Annual	15	38	45	39	13
Cumulative	15	53	98	137	150

Economic Rate of Return: 16%

a] Including Duties and Taxes estimated at \$15 million equivalent. Interest during construction is not included, since it is not capitalized by KLDC.

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URBAN LAND DEVELOPMENT PROJECT

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This report is based on the findings of an Appraisal Mission consisting of Messrs. C. Fernandez (Sr. Financial Analyst), E. Fernando (Sr. Engineer) and L.M. Hannah (Economist), who visited Korea in November, 1985. Miss Elisabeth Hellman assisted in preparing the report.

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MAP

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I. HOUSING AND URBAN LAND DEVELOPMENT

1.01 **Housing Demand and Supply.** In the past 25 years, the Korean economy has been transformed from predominantly rural-agricultural to urban-industrial. Between 1960 and 1985, the proportion of GNP generated by agriculture decreased from 48% to 13%. In the same period, the urban population increased from 30% of the total population to 65%. Although the overall population growth rate has declined significantly (from about 3% in 1960 to less than 1.5% now), the urban population is still growing about three times as fast. It is estimated that by the year 2000, over 80% of the population will be living in cities. The rate of urban household formation is even higher, given the age structure of the population. An estimated 300,000 new urban households are formed each year and this trend is expected to continue into the 1990s.

1.02 To meet the demand from the new households, and to eliminate, over time, the existing backlog, it is estimated that 400,000 new housing units would be needed annually for the next several years. In contrast, actual construction averaged only 165,000 units p.a. in the 1970s and 200,000 units p.a. in the past five years. The net addition to the housing stock has been even smaller (150,000 units p.a. in the past five years) due to substantial demolition and amalgamation of older units.

1.03 The wide gap between housing demand and supply has caused serious strains on the housing market, which has translated into worsening housing conditions in terms of overcrowding, particularly in the larger cities. In contrast to Government objectives, the number of housing units per 100 households declined from 85 in 1966 to 68 in 1983. Although average space standards have improved significantly (each household occupied an average of 47 sq m in 1980, up from 34 sq m in 1970), many households now share a housing unit with several other families. In 1980, only 30% of urban households occupied a single dwelling, while 30% shared with one other family, 18% with two families and 22% with three or more families. Between 1970 and 1980, the average number of urban households per housing unit almost doubled from 1.2 to 2.2.

1.04 According to the Government's plan, construction of housing is to be shared approximately equally between the private and public sectors, with the latter catering primarily to low- and moderate-income families. The share of new housing production by the public sector has increased over the past five years, primarily because private sector construction declined during the economic downturn of the early 1980s, while public sector output was maintained according to plans. Both the growing gap between the number of households and dwelling units and the increasing public sector share are indicative of the constraints on the housing sector. All developers are confronted with a shortage of serviced land for housing construction. The public sector has been able to offer a limited amount of financing to all its buyers, but only about half of the privately developed units receive any formal financing.

1.05 Housing Policies and Plans. Over the past twenty years, housing policy has evolved from a relatively low priority to being the key component of social policy. When formal housing policies were established, the initial objective was to increase the supply of housing, and the emphasis was on direct delivery by public sector institutions to promote home ownership especially among lower income groups. The Korea National Housing Corporation (KNHC) was established in 1962 to complement the dominant private sector efforts. This policy has continued with the public sector addressing the needs of the lower income groups by building smaller and lower-priced units than those offered by the private sector. A policy of having public institutions take the lead in addressing major sector bottlenecks was reinforced with the establishment of the Korea Housing Bank (KHB) in 1967 and the Korea Land Development Corporation (KLDC) in 1978. Although the main policy theme has been to expand the quantity of housing, the dominant concern for equity and a series of measures designed to restrain prices in the sector have contributed to slower than expected progress in improving housing conditions. Recent thinking among Korean policy-makers is to broaden the objectives of housing policy to include improvements of rental accommodation as well as owner-occupied housing and to promote increased housing construction by the private sector.

1.06 The Government's goals for the sector are reflected in its Five-Year Economic and Social Development Plans and are translated into annual programs by the Housing Policy Review Committee (HPRC) which includes members from the Economic Planning Board (EPB), the Ministry of Construction (MOC), KLDC and others. MOC's Housing Bureau prepares an annual housing plan which contains specific targets for the public sector housing construction program. Government objectives are to increase the ratio of houses to households (both urban and rural) from 0.68 in 1983 to 0.75 by 1991 while continuing to increase the floor area per person. This will require construction of about 2 million new housing units between 1986 and 1991. Until the early 1970s, Government's policy kept investment in the sector very low, averaging only about 3% of GNP. Since that time, it has climbed to between 5% and 7% of GNP, which is typical for countries of similar incomes and levels of urbanization. The Fifth Five-Year Plan (1982-1986) specified a target of 1,460,000 new units, with 39% to be constructed by the public sector. However, by end-1984, only about 640,000 units were actually constructed, of which 41% were accounted for by the public sector. It is unlikely that the targets for the Fifth Plan will be achieved, due to the recession in the early 1980s which reduced the demand for housing, and because of the continuing shortage of developed land on the supply side and housing finance on the demand side (paras. 1.10 to 1.13).

1.07 Housing Institutions. MOC is the key agency in the sector. Its Housing Bureau is responsible for housing sector policies, planning and regulations, approval of housing construction plans (which are largely prepared by the local governments), and research on housing costs, materials and specifications. MOC's Land Bureau is responsible for land policies, development plans, price surveys and the approval of land acquisition for public use. Two semi-autonomous public corporations under MOC - KLDC and KNHC - were established to

deal with major bottlenecks in the sector. KLDC, the borrower for the proposed project, develops urban land on a large scale, primarily for housing. Since serviced land is a bottleneck for both public and private developers, KLDC has a mandate to develop sites to serve both. KNHC contracts with private builders for the construction of large-scale housing projects. KNHC has produced about 227,000 units over the past five years, or about 23% of total new construction, and sold 35,000 units in 1984. To make public housing attractive and affordable to low and middle-income buyers, KNHC has concentrated on the smaller end of the market. In 1984, its housing units averaged 55 sq m, ranging between 30 sq m and 80 sq m. The size of the minimum unit is increasing slowly over time, to match demand. Details of the sector organization and institutions are presented in Annex 2.

1.08 Almost all long-term financing of housing is provided by two Government-owned institutions, KHB and the National Housing Fund (NHF). KHB is a specialized bank (under the direction of the Ministry of Finance) which makes long-term loans to individuals for house purchases. NHF is a separate Government fund, managed by KHB for a fee, which provides loans for the purchase of smaller houses constructed by various public bodies such as local governments, housing cooperatives and KNHC.

Sectoral Issues and Constraints

1.09 The two major constraints in the housing sector are the limited availability of serviced urban land and insufficient long-term mortgage financing, which are discussed below.

1.10 Scarcity of Serviced Land. The provision of serviced urban land has proved to be the most serious constraint affecting the supply of housing. Korea has one of the highest population densities in the world. Moreover, almost 70% of the country is mountainous and thus is not suitable for agriculture or residential construction. Agriculture and urban development are therefore confined to some 33,000 sq km, mainly in valleys and on low hillsides. The population density exceeds 1,200 persons per sq km in these areas. As a result, suitable land is intensively used for agricultural, industrial and residential purposes.

1.11 There is a broad consensus on land policies in Korea. These policies reflect two main concerns: the need to protect agricultural land in order to promote food self-sufficiency, and the belief that most of the increased value in land brought about by regulatory change, such as rezoning, and by expanded urbanization should accrue to the general public and not to individuals. As a result, there are some 70 laws involving several ministries which have a role in regulating the use and transfer of land. In fact, almost half of the sites proposed for development by KLDC since 1980 have been rejected by other ministries due to these laws and regulations. At present, however, there is an awareness that the complex and time-consuming procedures involved in applying these laws may have become a barrier to developing an adequate supply of urban land, and the Government has already taken some actions to streamline the administrative processes.

1.12 Land ownership is widely dispersed and requires the purchase of many small plots for a typical land development project. This fragmentation and the desire of the population to retain ownership have made land acquisition, especially for the private sector, difficult and costly. The scarcity of urban land has resulted in price increases averaging 7% p.a. in real terms, but reaching 20% p.a. in some large cities during the past five years. Since land represents a larger share of the cost of a house in Korea than in most other countries, high land prices make housing even less affordable or available. The Government's efforts to increase the supply of new urban land under these circumstances have resulted in most of the new land developed in recent years being through the efforts of KLDC and KNHC, and, to a lesser extent, the Industrial Sites and Water Resources Development Corporation (ISWACO) and local governments. Legislation approved in December, 1985 has simplified some of the regulatory processes governing land development. The proposed project would support KLDC's efforts to provide more urban land and improve its delivery capacity.

1.13 Insufficient Housing Finance. The other important constraint to satisfying the effective demand for housing has been the lack of a developed housing finance system. Only 7% of the value of new housing and 15% of the units built since 1967 were covered by formal loans. In 1984, the buyers of 78% of the new units received a mortgage which, however, covered only 26% of the value. The remaining 74% of the house price was financed from savings and informal, higher-cost borrowing. Under this essentially cash-financed system, housing production has been restrained, with households purchasing less housing and later in life than in countries of comparable incomes. The very frequent turnover of house ownership (every 3.7 years) is indicative of the inability of prospective homeowners, in the absence of adequate long-term housing finance, to invest in homes that would satisfy their medium- to long-term requirements. Because of the large cash requirements to purchase a house, the low- and medium-income groups particularly have been unable to own a house. The Bank has recently completed a sector study of the housing finance system, which recommends expansion of market-based mortgage lending in conjunction with liberalization of the financial system and increased targeting of concessionary financing through the NHF. This study is being discussed with the Government which has given a favorable initial response to the policy recommendations of the study. Consideration is now being given to a possible future housing sector loan, provided agreement can be reached on policy reforms and on an action program to implement those reforms.

1.14 Bank Objectives and Lending in the Sector. The Bank's lending strategy for the sector is to support high priority investments included in Government's development plans and through these operations to improve the efficiency of the sector institutions. Through its support of Government's development plans in the sector, the Bank has the following key objectives:

- (a) to increase the supply of urban land by improving policies and strengthening programs for the delivery of developed land and housing, especially for the lower-income

population;

- (b) to strengthen sector institutions, promote sound investment planning with emphasis on least-cost alternatives, and improve the efficiency of the use of resources; and
- (c) to develop a solid financial basis for the sector, through improvements in accounting, financial and management information systems, and the adoption of appropriate cost recovery and financial policies.

1.15 Experience with Past Lending. The First National Urban Land Development and Housing Project (Loan 1980-KO), approved in 1981, supported the establishment of KLDC and promoted, through KNHC, the provision of several types of housing units affordable to low-income households. Practically all of the land developed under this project has already been sold, and about 40% of the land and 60% of the housing units built on this land have been targeted for low- and moderate-income persons. Housing construction will be completed by mid-1986. The Second National Urban Land Development and Housing Project (Loan 2216-KO), approved in 1982, further strengthened the two sector institutions, KLDC and KNHC, and improved their coordination, set social objectives for these projects and began to address housing finance issues. Land development is practically completed, and housing construction will be completed by the end of 1986. Both projects have been implemented satisfactorily and have contributed to raising Government's awareness of the need for low-income housing and the introduction of innovations such as expandable core housing, graduated mortgage payments and affordability analyses. In a short period of five years, KLDC has become a key institution in the sector, and studies financed under the above projects have provided the Government with a good basis for improving housing policies. The proposed project would continue and broaden the development of KLDC initiated under these projects.

1.16 Rationale for Bank Involvement. The Bank's support for the proposed project would sustain the institutional and policy improvements achieved under the two previous projects by expanding those measures to KLDC's entire program. In addition, the project would introduce improved procedures for key activities such as the economic and financial evaluation of sites, project planning, the allocation of costs and the pricing of developed land. Better corporate financial planning and internal management procedures would serve to reduce the commercial risks to KLDC in the emerging environment of lower inflation in land values and high real interest rates. The project would also produce significant benefits for the entire sector because of KLDC's strategic role in land development. In particular, the economic evaluation of prospective sites, to be introduced under this project, should have a positive impact on the whole housing sector by demonstrating the use of sound criteria for taking decisions on land management. The basic policies, such as setting a minimum target for land supplied for low-income housing, and the specific implementation program, are formalized in KLDC's Policy Statement and Institutional Development Program (PSIDP, Annex 1 and paras. 2.02 and 3.03(a)).

II. THE BORROWER

The Korea Land Development Corporation (KLDC)

2.01 **Organization.** KLDC was established in 1978, taking over the activities of the Korea Land Bank, to contribute to urban development by the acquisition, development, reclamation and supply of urban land, and the redevelopment of dilapidated urban areas (urban renewal) as well as to participate in the development of new city areas or towns. KLDC is owned by the Government (91%) and the Korea Development Bank (9%) and reports to MOC. KLDC's organizational structure and staffing are appropriate for its functions (Chart 1). Its Seoul headquarters includes the President, one Senior Vice-President and three other Vice-Presidents with 12 departments and about 300 persons. Twelve Branch Offices headed by Branch Managers employ another 650 persons. Under the Government-Invested Corporations Management Act of 1984, public corporations have been given relative autonomy under their respective Boards of Directors. However, their performances are monitored and evaluated annually, and staff are rewarded with annual bonuses of up to three additional months salary depending on the institution's rating. KLDC's staff bonus in 1984 of about two and a half months' salary reflects KLDC's healthy performance. KLDC is continuing to improve its efficiency, systems and procedures.

2.02 **KLDC's Policies.** KLDC's policies have evolved during the last five years and are included in its Long-Term Management Plan (LTMP) approved in 1984, and its Management Guidelines, approved in 1985. The LTMP sets overall long-term plans and directions for the Corporation but has yet to include clear social, financial and economic targets. The proposed project is based on a Policy Statement and Institutional Development Program (PSIDP, Annex 1) which expands and clarifies the objectives of the LTMP. The PSIDP includes the institutional development program described in para. 3.03(a) and the following main policies:

- (a) the promotion of more efficient land use;
- (b) a social policy to set aside for low-income housing about 40% of the total residential land developed;
- (c) management guidelines to increase the efficiency and effectiveness of the corporation;
- (d) the use of improved demand and economic analysis for subproject selection; and
- (e) pricing at cost for low-income housing and public facilities and at market prices for other users.

2.03 **KLDC's Programs.** KLDC's land development plans are based on Government's targets under the Fifth Five-Year Plan and the draft

Sixth Plan (1987-1991). KLDC's growth during the past five years has been impressive. Between 1980 and 1984 annual land acquisition for development increased from 250 ha to 790 ha, land development increased from 275 ha to 728 ha during the same period, and the supply of developed land increased from 32 ha to 450 ha. Total investments increased from W 62 billion (\$100 million) to W 327 billion (\$410 million). KLDC's plans for the period 1986-89 are ambitious but are feasible based on past experience. Land development investments are largely determined by technical and market considerations and, on the average, each site would be developed and contracted for sale within four years of acquisition. KLDC's total investment program during 1986-89 is planned at W 1,827 billion (\$2,145 million). KLDC's three main programs are summarized below (see Annex 4 for details):

(a) Land Development Program. KLDC's main activity is land development, under which idle or marginally used land is purchased, a development plan prepared, and the land rezoned and provided with all of the necessary infrastructure (water, sewerage, streets, electricity, parks, public zones, etc.). Its bylaws, experience and financial capacity give KLDC substantial advantages in the development of large-sized sites. During the present Five-Year Plan, KLDC would supply 3,540 ha of serviced land in about 40 municipalities throughout the country. Total planned investments under the Fifth Plan would be W 1,685 billion (\$2,054 million). For the Sixth Plan (1987-91), KLDC plans to acquire and service about 4,700 ha of land in about 50 municipalities, with total investments of W 2,750 billion (\$3,300 million). The land development program provides land for both housing and industrial development. In the past, industrial sites represented up to one third of KLDC's land development investments, but in the Sixth Plan about 90% of investments would be for housing development. These subprograms are described below:

(i) Housing Site Development. Preliminary housing objectives in the Sixth Five-Year Plan call for the public sector to provide about 60% of the new land developed. KLDC would provide about half of the land to be developed by the public sector, with the allocation among municipalities and the magnitude of the development being determined by detailed assessments of demand. Initially KLDC evaluates alternative unserviced sites within municipal boundaries. After suitable sites are identified, KLDC processes the approval for development as housing sites under the Housing Site Development Promotion Law. Approved sites are purchased, planned and developed in accordance with national and municipal plans and regulations. Planning incorporates national objectives to provide low-income groups with affordable housing (for sale or rental) and complementary commercial and public facilities. Housing is normally completed within two to three years after the land is developed. To shorten the schedule for delivering houses, KLDC is now starting to sell semi-developed land at the early stages of the project cycle, in order that contractors could start housing construction simultaneously with completing land development. This program also includes special projects for the development of two large sites within Taejeon City: one for research and academic institutions being relocated from Seoul, and the other for expansion of the city's central

area; and

(ii) Industrial Site Development. KLDC, following Government requests, develops specific industrial sites. The most important program under execution is the development of the Namdong Industrial Estate in Incheon, which is expected to provide 900 ha of serviced industrial land for the relocation of industries from Seoul. Land acquisition for the industrial sites presently planned by KLDC would be completed by 1988 with development being completed by 1990. Housing sites complementary to these industrial sites are also included in this program.

(b) Urban Land Renewal Program. This pilot program, started in 1984, envisages the redevelopment of selected city areas to solve the problems of substandard service levels, overcrowding, fragmentation of ownership and inadequate planning of old neighborhoods. The program, which at present consists of only about 3 ha, is expected to demonstrate the viability of the redevelopment of downtown areas and of improving land use and environmental conditions.

(c) Land Transactions Program. During the 1970s, the returns on investment in land were more profitable than most other investments and, as a result, scarce urban land was purchased and left idle by many companies. KLDC has been given the responsibility to acquire idle land and resell it gradually, acting as a "land bank". After peaking in 1982 at 5,030 ha, this program has now been reduced to the acquisition of only about 200 ha per year.

2.04 KLDC's Past Finances. With a paid-in capital of W 229 billion (1985), KLDC is the fourth largest government-owned corporation and the thirteenth by number of staff. Appropriate control of expenses, efficient execution of projects, increases in land prices (averaging 7% p.a. above inflation in the main cities during the past five years), and high demand for land all contributed to KLDC's excellent financial performance in recent years. In 1985, KLDC's net profits before taxes were W 166 billion, (3.5 times its net profits in 1984), equivalent to 45% of its sales and 36% of its equity. These profits, however, partly result from inflation, since the cost of the developed land (which is purchased and developed some years before) is not adjusted for inflation. KLDC's debt-to-equity ratio was 0.9, its debt service ratio was 5.3, and net internal sources financed 73% of its total investments.

2.05 Strengthening of Financial Management. KLDC's growth during the past seven years has been impressive, with annual investments increasing six times between 1980 and 1985 and the developed land supplied increasing 22 times over that period. KLDC has thus become one of the largest corporations in Korea. Despite this tremendous growth, there are still weaknesses in its financial management and information systems, including lack of sufficient staff. A number of improvements in this area are included in the project (para. 3.03 (a)), mainly through the introduction of computers for project analysis and for general accounting and inventories. KLDC has also agreed to reinforce its Financial Management Division with additional financial and accounting staff. The PSIDP includes studies to

improve KLDC's financial management and corporate planning, thus providing a solid basis for the future development of KLDC. Draft Terms of Reference for a study to strengthen KLDC's financial management and planning are presented in Annex 9.

2.06 Future Finances. Financial projections (Annex 6) indicate that KLDC's financial position is expected to remain good. KLDC's net operating income on sales would average 28%, the debt service ratio would exceed 1.9, and the income before taxes on equity would average 19%. KLDC's investments during the next four years are estimated at \$2,140 million, equivalent to four times its total equity in 1985. About 76.5% of these investments would be financed from internal cash generation, primarily through the sale of land purchased and developed before or during this period (para. 3.06). Sensitivity analysis (Annex 6) shows that both land prices and the efficiency of the project cycle are very important for KLDC. KLDC's profitability in a given year depends on the success of the individual sites, typically purchased four years earlier, and is influenced by factors such as the development schedule, the time required to sell the developed site, the portion sold at cost (for low-income housing), the average selling price and payment terms, and the prevailing market conditions. Therefore, key variables for KLDC's financial viability are proper site selection and evaluation, both of which are to be improved under the PSIDP. To protect KLDC's financial position, assurances were obtained during negotiations that KLDC would not incur any additional long-term debt without prior Bank concurrence if its debt service coverage falls below 1.3 in any calendar year.

2.07 To achieve the Government's social objectives, and to maintain housing affordability for the lower-income population, land for smaller-sized housing units would be sold at cost. The remaining land would be sold at appraised market prices. It is therefore important for KLDC to review its cost allocation and pricing practices, which include taking into consideration location and other advantages within a given site, the timing of the sale and, in some cases, the level of infrastructure provided for a particular location within a site. In addition some city center sites would also have development costs which would benefit the entire city or even the country (i.e. public parks, inter-city highways, etc.). Allocation of such costs to some individual sites may increase selling prices unreasonably. Improved pricing procedures in these areas would enable KLDC to allocate and recover costs which may not be recoverable from the direct beneficiaries. A pricing study, to be completed by mid-1987, is included in the agreed PSIDP and draft Terms of Reference are presented in Annex 8.

III. THE PROJECT

3.01 Project Origin and Formulation. The proposed project is an important part of the Government's plans to improve the availability of serviced land for urban development and housing in Korea. It builds upon the general objectives reflected in the LTMP for the period 1985-1991, which was prepared by KLDC with the assistance of advisers from local universities and research organizations in consultation with government agencies. The project has been designed to provide a detailed and sound basis for the successful implementation of the LTMP.

3.02 Project Objectives. The proposed project would improve both the policies and performance of a key public institution in the urban sector as well as support its programs to develop a significant portion of newly developed urban land. The project would address what is presently the most critical constraint for housing development. The main project objectives are to:

- (a) strengthen KLDC's management and administration;
- (b) establish corporate goals for serving the low-income population;
- (c) improve KLDC's project evaluation procedures, and its cost allocation and pricing policies; and
- (d) support KLDC's urban land development program.

3.03 Project Description. The project encompasses KLDC's comprehensive program to improve its policies, procedures and management. In support of this program, the proposed Bank loan would finance a four-year time-slice (1986-89) of KLDC's land development program and the implementation of the PSIDP. The main cost item is land acquisition (about 75%). KLDC's land transaction and urban renewal programs do not require Bank support at this stage: the former because it is mainly a land banking function which is well financed by debentures; and the latter because it is a small pilot effort.

(a) Policy and Institutional Development. Although KLDC is generally well organized and managed, some areas require improvements. A main component of the project would improve KLDC's policies, procedures and management practices. The main vehicle to achieve these objectives would be the PSIDP (Annex 1), which describes KLDC's policies (para. 2.02) and its proposed program for institutional development which includes: (a) the strengthening of KLDC's financial management; (b) the establishment of improved criteria for physical planning; (c) a review of cost allocation and pricing policies; (d) the establishment of information systems for project planning and financial management, and the annual updating of short-and medium-term corporate plans, including development programs and financial projections; (e) the establishment of training programs and the construction of a training center; and (f) the establishment of computerized accounting and

payroll systems. The Institutional Development Program would be fully implemented by December 31, 1987 and all studies and review reports would be sent to the Bank for comments. The PSIDP was reviewed and agreed at negotiations and is expected to be approved by KLDC's Board of Directors in May 1986. Assurances were obtained during negotiations that KLDC would review annually with the Bank the progress achieved in the implementation of the Institutional Development Program. The first such review to take place not later than October 31, 1986.

(b) Land Development. The project's land development component includes the acquisition of about 3,600 ha of land and the development of about 2,700 ha of land for housing and 1,000 ha of land for industrial sites. In total, about 3,700 ha of serviced land spread over about 120 sites would be supplied (available for sale) by KLDC during this period.

3.04 Subproject Approval. KLDC's site selection and subproject evaluation would use improved demand and feasibility analyses, and each subproject approved would meet agreed financial criteria and an economic rate of return higher than the opportunity cost of capital. (Annex 3, paras. 6. to 8.). A detailed methodology for the financial and economic evaluation of sub-projects has been agreed with KLDC, and a computer program prepared for this purpose (Annex 3, Tables 1 to 3) was applied to the main subprojects proposed for 1986-87, which were found acceptable. Agreement was reached at negotiations that these criteria would be used for the approval of all subprojects. Feasibility studies for subprojects above 100 ha would be subject to prior Bank review before being accepted for Bank financing. The remaining subprojects would be evaluated by KLDC and reviewed by the Bank during project supervision. KLDC's annual programs and investments would be reviewed and updated on a regular basis (para. 3.10).

3.05 Project Cost. The proposed project focuses on KLDC's land development program for 1986-89, estimated to cost W 1,575 billion, (\$1,849 million) including foreign exchange requirements of about \$150 million (8.1%, Table 1). Including contingencies, the land acquisition

TABLE 1 - PROJECT COST

	BILLION WON			% of Base Cost	MILLION US\$			% Foreign
	Local	Foreign	Total		Local	Foreign	Total	
LAND ACQUISITION	988.02		988.02	74.4%	1122.75		1122.75	0.0%
For Housing	910.40		910.40	69.8%	1034.55		1034.55	0.0%
For Industrial Sites	77.62		77.62	5.8%	88.20		88.20	0.0%
LAND DEVELOPMENT	218.44	104.88	324.12	24.4%	248.37	118.98	368.32	32.3%
For Housing	175.13	83.54	258.68	19.5%	199.02	94.94	293.95	32.3%
For Industrial Sites	44.31	21.14	65.45	4.9%	50.35	24.02	74.37	32.3%
ENGINEERING & ADMINISTRATION	11.81	3.87	15.48	1.2%	13.19	4.40	17.58	25.0%
BASE COST - JAN/1986 PRICES	1218.07	108.55	1327.92	100.0%	1385.31	123.35	1508.66	8.2%
PHYSICAL CONTINGENCIES	60.95	5.43	66.38	5.0%	69.27	6.17	75.43	8.2%
PRICE CONTINGENCIES	168.98	14.02	181.01	13.6%	244.45	20.48	264.83	7.7%
TOTAL COST	1447.01	128.00	1575.01	118.6%	1699.02	150.00	1849.03	8.1%

cost is estimated at W 1,185 billion (\$1,391 million), land development costs at W 370 billion (\$434 million), and engineering, administration and technical assistance at W 20 billion (\$24 million). Taxes and duties are estimated at about W 13 billion (\$15 million). The base cost is expressed in January 1986 prices. The project is in an advanced stage of preparation, and cost estimates are based on detailed designs for the first year of construction and recently awarded contract prices for similar works. Physical contingencies have been estimated at 5% of base costs because of KLDC's experience with works of this kind, and the programmatic characteristics of the project. Costs for project planning, design and studies include about 1,000 man-months of consultants services including about 40 man-months of foreign consultants. Estimated price increases over the project period amount to about 16.7% of base costs plus physical contingencies. Price increases for foreign costs are estimated at 7.2% for 1986, 6.8% for 1987-88, and 7.0% for 1989, and for local costs at about 4% for 1986 and 5% for 1987-89. Land acquisition costs are estimated to increase, on the average, by 2 percentage points over the expected increases in local costs. It is estimated that exchange rate adjustments would, on average, maintain "purchasing power parity" during the project implementation period.

3.06 Financing Plan. The proposed Bank loan of \$150 million would finance the estimated foreign exchange cost (8.1%) of KLDC's 1986-89 land development program of W 1,575 billion (\$1,849 million). The remaining cost would be financed by net internal cash generation, \$1,669 million (90.3%), and domestic loans of \$30 million (1.6%). KLDC's total investment program of W 1,827 billion (\$2,145 million) during 1986-89 would be financed as follows: the proposed Bank loan (7.0%), net internal cash generation (76.5%), land bonds (4.7%), corporate bonds (5.8%), other loans (4.9%) and equity contributions (1.1%), (Annex 6, Table 4).

3.07 Procurement. Procurement arrangements for the project are summarized in Table 2. International Competitive Bidding (ICB) would be required for all civil works contracts, about 20, which exceed \$10 million each. As in the previous urban projects, foreign contractors are not expected to be interested in these works due to the experience and efficiency of the local construction industry and the wide distribution of works over time. The remaining civil works contracts would be procured under Local Competitive Bidding (LCB) in accordance with procedures which have been reviewed by the Bank and are satisfactory. Contracts over \$4 million each would be bid among prequalified contractors.

3.08 Prior Bank review would be needed for civil works contracts over \$10 million, which would include about 65% of the value of all contracts. This is adequate, since procurement documents would be standardized in accordance with the Bank's guidelines, and KLDC is well experienced with Bank procurement procedures. Advance contracting amounting to about 3% of the value of the project is recommended for contracts bid after project appraisal. This would help expedite the program. Consultants for project planning and design would be selected in accordance with Bank guidelines from a panel of 16 local consultants who have performed satisfactorily under

previous projects. In order to develop and retain internal expertise on institutional and management improvement matters, KLDC plans to have its staff take primary responsibility for most of the studies proposed in the PSIDP, with the support of advisors and consultants where appropriate. Project supervision would be carried out by KLDC Branch Office staff with general services being provided from Headquarters.

TABLE 2 - PROCUREMENT OVERVIEW: COSTS AND BANK FINANCING (\$ Mln) a]

PROJECT ITEM:	PROCUREMENT METHOD			TOTAL COST
	ICB	LCB	OTHER	
Civil Works, Engineering and Studies	300 (125)	158 (25)	- (-)	458 (150)
Land Acquisition and Taxes	-	-	1,391 b]	1,391
TOTAL	300 (125)	158 (25)	1,391 (-)	1,849 (150)

a] Figures in parentheses are amounts financed by the Bank loan.

b] Purchased by negotiation based on appraised values.

3.09 Disbursements. The Bank would finance about 8.1% of the project cost. To reduce the number of disbursement applications, the proceeds of the Bank loan would be disbursed only against civil works contracts of more than \$4 million each. Disbursements against these contracts would be at 60% of contract cost. This would include about 30% by number and 75% by value of all contracts. The Bank-financed program would comprise about 40 contract packages varying in size between \$4 million and about \$25 million. A Special Account of \$12 million would be established to expedite loan disbursements for eligible expenditures. Disbursement of the Bank loan is expected to take four and a half years, which is similar to the profile for comparable loans in Korea. The closing date of the loan would be December 31, 1990.

3.10 Project Implementation. The project would be implemented by KLDC with the assistance of advisors and consultants for feasibility studies, planning, detailed engineering and institutional development. These activities, and procurement through OSROK, would be coordinated by Headquarters staff under the Senior Vice-President, who would also provide liaison with the Bank. The annual implementation schedule is realistic, based on experience with previous projects. Assurances were obtained during negotiations that KLDC would send to the Bank, not later than February 28 of each year, starting in 1987, projections of development programs, project execution, financial projections and monitoring indicators for the next five years, and within six months of the loan closing date would prepare a project completion report.

3.11 Accounts and Audits. KLDC's accounting procedures are satisfactory, and its accounts have been audited satisfactorily since 1981. The Bank's recommendations to make these audit reports more comprehensive and detailed were incorporated in the Audit Report for

1984. Assurances were obtained during negotiations that within six months of the end of each fiscal year KLDC would furnish to the Bank an audit report of its accounts, financial statements and the Special Account, as audited by independent auditors acceptable to the Bank.

IV. PROJECT JUSTIFICATION

4.01 Justification and Benefits. By strengthening the programs, policies and management of KLDC, the proposed project would facilitate the development of serviced land throughout the country, thus helping to alleviate one of the most difficult bottlenecks in the provision of housing in Korea. The project would supply some 3,700 ha of land in a balanced environment including well-planned housing sites with provision for schools and other public facilities, green areas and commercial and industrial zones. This includes about 1,000 ha of industrial sites to create employment and promote development. It is estimated that about 250,000 housing units would be constructed on this land, providing housing for more than one million persons. About forty percent of the land developed for housing will be supplied to low-income housing programs. Given the smaller size and higher density of these units, more than half of the project beneficiaries (about 130,000 families or 520,000 persons) would be in the bottom half of the income distribution. KLDC's program of land development will generate an increased supply of serviced land and new dwellings, which will make lower priced, existing housing, available for poor families, which represent only about 12% of urban households as defined by Bank guidelines. The project would also provide construction jobs while helping to solve housing problems.

4.02 Cost Recovery and Affordability. The project would recover all financial costs, including land acquisition, development, infrastructure, management costs and interest during construction. Since the housing situation is worse for the lower-income population, and since Government wants to balance its financial and social objectives, KLDC plans to adopt for its overall program the target to provide 40% percent of the developed land for low-income housing. These programs provide smaller units, which are affordable to households in the second quartile of the urban income distribution. Most of these housing units would be built by KNHC, the cities, and housing cooperatives under Government's public housing construction programs. To make housing affordable to the target population, KLDC's policy is to price low-income housing sites at cost, but to charge appraised market prices for other users. This would enhance affordability while maintaining a satisfactory financial position for the corporation.

4.03 Economic Rate of Return. The economic evaluation of each site would be required as part of the proposed improvements in site appraisal criteria (para. 3.04). The main subprojects to be

undertaken in 1986-87 show an Economic Rate of Return (ERR) between 13% and 40%. The cost stream includes the cost of land and development, and the benefits are calculated by using the estimated market price for the developed land sold. An analysis was made of the total land to be acquired between 1985 and 1989, and of the time and expense required to develop and sell it. The ERR based on the average unit cost of acquisition and development, the estimated market prices for land, and the real price increases in land (averaging 2% p.a.) due to its increasing scarcity, is 16% (Table 6). Sensitivity analysis shows that if the development costs are 15% higher the ERR is 13%. In the improbable circumstances that the prices for the land supplied decline by as much as 10%, and, simultaneously, the development costs are 15% above estimates, the ERR would be 5%. However, in this case, KLDC would take corrective action by eliminating lower return investments from its program. If no increases in land prices are included, the ERR is 15%. The implementation of the social pricing policy explained in Annex 1, would result in KLDC's average selling price of about 20% below market prices. The incremental financial rate of return, based on these prices and including tax expenses is 8%, which is well above the real cost of capital to KLDC (Annex 6, Table 6).

4.04 Project Risks. There are no serious risks in the project. The risk that KLDC may be slower than anticipated in adopting institutional and policy reforms is minimized by the commitment of KLDC's management to the proposed institutional programs. Regular reviews of progress by the Bank and KLDC during project implementation will help ensure that institutional and policy reforms proceed on schedule. The proposed implementation schedule is feasible based on previous project experience.

V. AGREEMENTS REACHED AND RECOMMENDATION

5.01 Agreement was reached during negotiations that:

- (a) KLDC would not incur any additional long-term debt without Bank concurrence if its debt service coverage exceeds 1.3 in any calendar year (para. 2.06);
- (b) KLDC would review annually with the Bank the progress achieved in the implementation of the Institutional Development Program (para. 3.03 (a));
- (c) KLDC would apply the agreed criteria for subproject approval (para. 3.04);
- (d) KLDC would send to the Bank annual projections for its development programs, investments and financial statements (para. 3.10); and
- (e) KLDC's accounts, financial statements and the Special Account would be audited by independent auditors (para. 3.11).

5.04 With the above agreements and conditions, the proposed project would be suitable for a Bank loan of \$150 million, for a term of 15 years, including a grace period of 3 years, at the standard variable interest rate. The borrower would be KLDC and the loan would be guaranteed by the Government.

KOREA

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Policy Statement and Institutional Development Programs
of the Korea Land Development Corporation (KLDC)

A: Policy Statement

Background

1. Land is a very scarce resource in Korea. Therefore, KLDC's policies aim at enhancing the productivity and utilization of land, improving the living environment, and promoting the public interest in terms of land use and ownership. KLDC has achieved a remarkable degree of growth since it was established. In terms of physical achievements it supplied about 300% more land for urban development in 1984 than it did in 1980. However, Government's plans for housing and industrial development, included in the Fifth Five-Year Economic and Social Development Plan (1982-1986) and the proposed Sixth Plan (1987-1991), require that KLDC further expand its capacity to develop viable sites for these purposes. The success of these plans and KLDC's role would largely depend on the Corporation's ability to increase its productivity and efficiency.

2. Accordingly, KLDC is undertaking an intensive effort to implement improvements in several areas within the next few years. In 1984, KLDC's Board of Directors approved a Long-Term Management Plan (LTMP), which was prepared with the assistance of consultants and advisers from universities and research institutions, to guide the operations of the Corporation during the period 1985 to 1991. This plan is now under implementation and will be reviewed and updated periodically.

KLDC's Objectives

3. The Korea Land Development Corporation (KLDC) was established in 1979 as a public sector corporation to contribute to national economic and social development and to increase the supply of serviced land in urban areas by acquiring and developing land for sale and by promoting better and more efficient use of land. These objectives are included in the Korea Land Development Corporation Law of December 5, 1978.

KLDC's Programs

4. The following five programs comprise KLDC's main activities:
- (a) the Land Development Program to supply serviced land for housing, commercial and industrial development;
 - (b) the Urban Renewal Program to promote city center rehabilitation on a pilot project basis;
 - (c) the Land Transactions Program to buy and sell idle and vacant land;

(d) the Institutional Development Program to improve the Corporation's productivity and efficiency; and

(e) a data bank and research on land price statistics.

5. KLDC's policy is to implement its programs in accordance with sound management and financial principles. It operates under the overall direction of Government's land and housing policies and the related Laws and Regulations. Its LTMP has been designed to fulfill the land development objectives of the Fifth Five-Year Economic and Social Development Plan and the proposed Sixth Plan. KLDC also intends to improve its management efficiency and productivity through a specific Institutional Development Program to be implemented during the period 1986-1988.

Corporate Management

6. KLDC's policy is to manage its functions efficiently, paying particular attention to program and project planning, financial management, staff training and research. KLDC will adopt technical innovations, such as computerization of financial systems and will emphasize the development of its human resources to achieve better efficiency and productivity. In particular, in the area of program planning, KLDC will prepare revised programs to reflect changing needs and priorities with annual implementation plans and budgets.

KLDC's Social Objectives

7. KLDC's policy is to fulfill Government's economic and social objectives in the housing sector. KLDC is an important part of the Government's plans to provide affordable housing for the urban population. These plans require KLDC to provide an adequate and timely supply of serviced plots for the public housing construction program, which is implemented by the Korea National Housing Corporation, local governments and the private sector. These programs are providing smaller housing units ranging in size between 45 and 85 sq. m. that are designed to be affordable to households between the 25th and 50th percentiles of the urban income distribution. In the past KLDC has supplied about 30% to 40% of the land developed by it for housing to these social housing programs. KLDC's policy is to target about forty percent of its annually developed housing land for public and private housing construction programs serving low income households. KLDC will monitor performance on this target on an annual basis and make appropriate adjustments to its land development program, as necessary.

Project Selection and Feasibility

8. Demand. KLDC's policy is to continuously monitor the market demand for serviced land country-wide and adjust its land acquisition and development programs to meet assessed demand, minimize the use of resources and provide a solid financial position to the corporation. KLDC has commissioned a study on the availability of and likely demand for land for urban development on a city specific basis. The results of this study will be available early in 1986 and will form the basis for improved planning of the geographical distribution of the

Corporation's program and a better assessment of the marketability of specific sites.

9. Financial Viability and Economic Justification. KLDC has a dual responsibility to undertake projects which provide both a high economic rate of return to the nation and sufficient financial return to maintain the viability of the Corporation. Success in achieving both of these objectives depends largely on the process of selecting sites for development. KLDC's policy is, therefore, to fully analyze all candidate sites, taking into consideration their technical feasibility, marketability, profitability to the Corporation and benefits to the national economy. This KLDC policy will be implemented by:

- (a) strengthening the economic and financial analysis undertaken as part of the feasibility study for each site in advance of the decision to acquire the land;
- (b) improved planning, design and construction procedures for site development, which include land-use planning and standards and specifications for the provision of services with a full study of alternatives before detailed design; and
- (c) minimizing the elapsed time between acquisition and sale of the serviced land by, inter alia, entering into collaborative arrangements with private sector developers.

Pricing

10. KLDC's policy is to balance its social and public service objectives with its financial viability and development as an autonomous Corporation under the Government-Invested Corporations Management Act of 1984. KLDC implements this policy by selling the land it develops for the public housing construction program, for public facilities and for industrial purposes at the estimated cost of development and land for other purposes at appraised market prices. The Corporation intends to review the methodology and data used for the estimation of costs in order to assure the accuracy of cost allocation used to fix selling prices and identify and distribute costs on sites where some plots may be sold at an early stage of development or where there are significant costs not directly related to the site or not primarily benefiting the buyers of the developed plots.

KOREA

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B: Institutional Development Program

1. KLDC's Policy Statement sets out its basic objectives, policies and programs. KLDC proposes to implement an Institutional Development Program in the following important areas to increase its efficiency and productivity and fulfill its mandate.

2. Corporate Planning. The basis of KLDC's programs is its Long-Term Management Plan (LTMP, 1985-1991), (LTMP), approved by its Board in 1984. KLDC will update the LTMP periodically, concentrating particularly on the next five-year segment of the Plan. The annual targets, particularly for the Land and Institutional Development Programs, will be reviewed annually by KLDC, with the assistance of advisors and consultants, as necessary. The updated programs and financial projections for the next five-year period will include an evaluation of performance over the three previous years and a forecast of KLDC's financial statements.

3. Financial and Economic Evaluation of Sites. In order to assure economic and financial viability KLDC will review its present site evaluation techniques, with the assistance of consultants, and develop and adopt an improved methodology for estimating the financial viability and economic justification of each project by December 31, 1986. A project will not be included in KLDC's program if it fails to meet specific minimum financial and economic rate of return criteria without a special justification being submitted to the Board of Directors for approval. This methodology would require estimation of:

- (a) the cost of financing the acquisition and development until the finished plot is sold;
- (b) the increase in land values due to development;
- (c) the effect of rising land values due to inflation; and
- (d) the opportunity cost of capital.

4. Physical Planning. At the level of the individual site, KLDC analyzes factors such as location, the availability of main services (water, drainage, electricity, transportation, etc.) and of public facilities (schools, hospitals, etc.) and assesses demand and marketability, before deciding on the feasibility of developing a particular site. KLDC proposes to review its present experience and practice in this regard and develop, by December 31, 1986, a set of criteria for locational and physical characteristics of proposed sites to improve this aspect of its site selection process.

5. Financial Management. KLDC's past and planned development is impressive, with annual investments increasing almost 10 times between 1980 and 1986 and land supplied increasing 26 times over this period. KLDC has thus become one of the largest corporations in Korea. To provide a solid basis for future development, KLDC would undertake a study to improve its financial management, and corporate planning, and

to strengthen its management information systems. This study would be completed by June 30, 1987.

6. Pricing. KLDC sells the land it develops for the public housing construction program as well as for public facilities at the estimated cost of development and land for other purposes at appraised market prices. Since KLDC derives most of its revenue from "at cost" sales, the accuracy of the calculation of "costs" is important. KLDC will undertake a review of the procedures for estimating "at cost" selling prices and of appraising "market" prices for individual sites as part of the reform of its financial planning mechanisms. This review will also include a cost allocation study which will investigate how costs should be assigned within a single site: (a) when the average cost pricing system results in selling prices higher than market values; (b) when some portions of a site are to be sold at an earlier stage of development, such as the proposed collaborative development with the private sector; or (c) when there are substantial costs that are not directly related to the particular site. Such a study would be completed by June 30, 1987.

7. Staff Training. KLDC presently has programs for training its staff in Korea and abroad. In keeping with its objective of securing and retaining highly qualified professional manpower and increasing staff efficiency and motivation, KLDC proposes to build and establish a new Staff Training Institute by December 31, 1988. KLDC will employ consultants or advisors experienced in this field as needed to review its training needs, and advise on planning of the proposed training institute. The consultants' review will be completed by December 31, 1987.

8. Computerization. KLDC proposes to establish an in-house data processing center and use computerized systems including accounts and payroll, with requisite hardware and software. KLDC also intends to introduce micro-computer hardware and software for financial management and program and project planning, including the production of an annual corporate plan with projected investments and financial results. KLDC will employ consultants or advisors experienced in this field as needed to review all aspects of the data processing center, testing and purchase of computer hardware and software, and staff training. KLDC will then establish a computer center by June 30, 1987.

9. Performance-Oriented Goals and Budgets. KLDC has started, on a trial basis, introducing performance-oriented goals and budgets for selected work units to increase staff motivation and efficiency. KLDC intends to review its internal budget systems on the basis of the results of this trial and will prepare recommendations and guidelines for further implementation. This review will be completed by December 31, 1987.

10. The above Institutional Development Program would be implemented as part of the IBRD-financed Urban Land Development Project during 1986-1988 and the reports and recommendations of all studies would be sent to IBRD when completed for review and comments.

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Sector Organization

1. Legal Framework. Housing production in Korea, like the overall economy, relies chiefly upon private corporations and individuals freely conducting business in the marketplace. However, the Government is directly involved in land and housing development and providing financing to the sector through the operation of three public enterprises and one fund. In addition, it has enacted 15 main laws regulating housing and urban land development (Attachment 1), and as many as 70 laws which directly or indirectly relate to the purchase, transfer and use of urban land. The multiplicity of interest and the complex legal and regulatory regime make the development of new land cumbersome for the private sector, and even for the public sector. The overall framework for bringing new land into use for urban services takes into account not only the needs of housing and commercial and industrial users, but recognizes the importance of protecting both agricultural land and the environment. There is now concern that the application of the laws protecting agricultural land and green belts may have become a barrier to the efficient supply of land for urban activities. Policy-makers have embarked upon a gradual review of this matter, and a study is being prepared by the Korea Institute for Human Settlements to search for a balance between these concerns and the need for an orderly, efficient urbanization process to satisfy the housing and development demand of the population. The solution to these conflicting interests in land use is the application of economic pricing, to determine the cost and benefits of using the land for agricultural, industrial or residential purposes.

2. Private Sector. All housing units constructed in Korea (222,000 in 1984) have been built by the private sector. Special tax and financial incentives (mainly the exemption of land taxes for the construction of units smaller than 85 sq m), have been established for large housing developers, designated as "Government Builders", and "Registered Builders". "Government Builders" are firms capitalized at more than \$0.6 million each, building at least 240 housing units in a three year period and employing at least six registered engineers. The 64 "Government Builders" produced about 17% of the housing units in 1982. The 1,400 "Registered Builders", which must be capitalized at more than \$0.1 million each and construct at least 150 units every three years, produced 23% of the housing units in 1982. Although no tax or financial incentives are given to the 22,000 other small builders, they were responsible for the construction of the remaining 60% of housing units in 1982.

3. Housing Institutions. The key public institutions are the Housing Policy Review Committee (HPRC), the Ministry of Construction (MOC), the Korea National Housing Corporation (KNHC), the Korea Land Development Corporation (KLDC), the National Housing Fund (NHF), and the Korea Housing Bank (KHB). Some urban redevelopment programs and the rural housing improvement program are under the Ministry of Home Affairs (MOHA). The Ministry of Defense also provides housing for the

military and for veterans.

4. Housing Policy Review Committee. The HPRC was established under the Housing Construction Promotion Law, and is composed of twenty members, including representation from the Economic Planning Board (EPB), MOC, the Ministry of Finance (MOF), KLDC, KNHC and the private sector. The HPRC reviews and approves the Annual Housing Construction Plan, which establishes the number of units to be built under the management of the public sector, including the distribution of sizes. The preparation of this plan is initiated in September and approved in February of each year.

5. Ministry of Construction. The MOC is the main agency for the sector, responsible for policy formulation and regulatory functions. The MOC's Housing Bureau is responsible for formulating and evaluating housing sector policies and regulations. It also prepares plans such as the Annual Housing Construction Plan, and oversees the operation of the NHF and KNHC. MOC's Land Bureau is responsible for studying and monitoring land development plans, and formulating land policies. The approval of land acquisition for public use and the oversight of KLDC are also handled by this Bureau.

6. Korea Land Development Corporation. KLDC, the borrower for the proposed project, was established in 1978 as the successor to the Korea Land Bank and was given a broad mandate to develop land for urban and industrial development. KLDC's main priority is the development of land for public housing programs. Other objectives and functions include the development and sale of land for private residential and industrial use, the acquisition and resale of idle but already developed land, the reclamation of land from the sea, urban renewal to promote the rehabilitation of urban areas, and the development of new cities and towns. The Government-Invested Corporations Management Act (1984) gives KLDC increased autonomy, under a Board of Directors appointed by MOC. KLDC's Management Committee includes the President, the Auditor, the Senior Vice-President for Planning and Finance and three Vice-Presidents responsible for Land Acquisition, Housing Site Development and Special Projects. In addition to the Seoul-based headquarters, there are 12 Branch Offices controlling 52 site construction offices. KLDC's organization is shown in Chart 1.

7. KLDC had a staff of 959 persons in 1985, with about one third located in the headquarters offices in Seoul. Considering planned increases in productivity, KLDC's staff is expected to remain at about 1,000 persons for the next few years. About 316 persons have professional degrees, and about 71% of them have received overseas training, many of them in special training programs developed in cooperation with Harvard University. KLDC is responsible for the initial technical, financial and economic evaluations of sites, with subsequent detailed site planning and engineering being carried out with the assistance of consultants. The structure of KLDC's organization and the quality of staff are good. However, the financial and statistical information systems need updating and, since the basic information is prepared independently at the Branch Office level, better coordination is necessary. KLDC also lacks the computerized accounting and planning systems expected in a corporation of this size. Management is aware of these shortcomings, which would

be addressed during project execution through staff training, consultant assistance to strengthen KLDC's financial management, and the computerization and standardization of all accounts. The financial analysis of KLDC is presented in Annex 6.

8. Korea National Housing Corporation. KNHC was established in 1962 to implement the public housing programs, specifically for low and moderate-income persons. KNHC's main activity is the country-wide development of large-scale housing projects consisting of small-sized units. In 1984, KNHC constructed and sold 45,000 units, almost 20% more than the annual average of the previous five years. Because direct construction by the private sector has been growing slowly, KNHC's share of total housing construction has increased slightly from 14% in 1980 to 17% in 1984. Almost all housing units built are apartments, ranging from 30 to 80 sq m. To make public housing attractive and affordable to lower- and middle-income buyers, KNHC has concentrated in the lower end of the market, and the average size of units constructed in 1984 by KNHC was 55 sq m. The size of the minimum unit is increasing slowly over time to match the demand. KNHC's main sources of financing are borrowing from the NHF, foreign and local loans and down payments from purchasers. KNHC's policy is to recover all direct and indirect expenditures from sales. All units developed by KNHC are eligible for long-term but limited financing, either from KHB or NHF, depending on the size of the unit.

9. Housing Finance. The formal housing finance system is underdeveloped compared to the size of the Korean housing market, the size of the entire financial system, as well as to the potential demand for financial services. Since the establishment of KHB in 1967, only 7% of the value of all new dwellings, or about 15% of the number of units constructed, were financed by mortgage loans. Although the total system has expanded rapidly, making loans for 26% of the value or 78% of the number of new units in 1984, the average loan covered only about one-third of the value of the units purchased. The balance of funds required is obtained from personal savings, gifts, informal borrowing (including the curb market) and the sale of a former house or other assets. The costs of the informal sources have been considerably higher than the interest rate carried by a formal mortgage. Almost all long-term financing is provided by two government-owned institutions, KHB and NHF. Together they provided 88% of the total formal lending for housing in 1983, which was W1,111.6 million. The remaining 12% was loaned by six insurance companies, two pension funds, and one other commercial bank.

10. KHB is a specialized bank under the general supervision of the MOF and was established to mobilize deposits, from which it raised 75% of the W 907 billion mobilized in 1983. The remaining funds come from loan collections, accrued interest on deposits and one-half of one percent from capital contributions. Eighty-three percent of KHB's loans in 1983 were long-term mortgages for 20 years at a variable interest rate, starting at 11.5% p.a. An additional 5% of lending was for housing-related purposes and only 12% for regular commercial activities. The total amount of KHB's loans to the housing sector in 1983 was W 500 billion (\$640 million). KHB is financed from deposits, housing installment savings, debentures and national and foreign loans.

11. The NHF was established in 1981 to raise funds and facilitate finance for the Government's public housing construction plans. The NHF is controlled by MOC, but its day-to-day operations are carried out by KHB as a separate activity. NHF was separated from the KHB's other activities facilitate the mobilization of public resources for the housing finance system. This is reflected in about one-third of the W 926 billion mobilized in 1983 being from tax-like compulsory purchase bonds. The remainder of its funds was mobilized in a manner similar to that of KHB. Most of the funds (92% in 1983) are allocated to financing the construction and purchase of public housing by local governments (40%), housing cooperatives (2%) and KNHC (50%). A small portion (8%) goes to registered builders for construction of units of less than 85 sq m for low- and moderate-income families. The loans are payable in 20 years at a variable interest rate, presently set at 11.5%. To ease the burden on low-income families during the first few years, a graduated monthly payment method has been adopted since 1982.

MAIN HOUSING LAWS IN KOREA

Attachment 1

DATE	LAW	PURPOSE
3/11/58	Construction Enterprise Act	Licensing of enterprises and engineers.
1/15/62	Land Expropriation Act	Use and expropriation of land for public projects.
1/20/62	City Planning Act	Regulates city planning for construction improvement and renewal of cities.
1/20/62	Building Act	Regulates the use of buildings and structures.
1/20/62	Korea National Housing Corporation	Establish KNHC to supply and improve housing for low-and moderate-income persons.
6/3/66	Land Readjustment Act	Regulates the process and procedures for land readjustment.
3/30/67	Korea Housing Bank	Establish KHB to mobilize and allocate housing funds, and stimulate private participation in housing.
12/30/72	National Land Utilization Act	Regulates national land utilization, land dealings and changes in land utilization.
12/30/72	Housing Construction Promotion Act	Promotes and regulates the construction, financing and management of housing.
12/31/76	Urban Renewal Act	Regulates urban renewal programs.
12/10/77	Environmental Preservation Act	Regulates hazards of environmental pollution and preserves natural and living environment.
12/5/78	Korea Land Development Corporation	Establish and regulate KLDC to increase the efficiency of land use, through the acquisition and development of land.
12/31/80	Land Development Promotion Act	Regulates the acquisition, development and supply of land, to increase land development in urban areas.
3/5/81	Residence Lease Protection Act	Regulates lease of residential properties.
12/13/84	Rental Housing Construction Promotion Act	Promotes and regulates construction and financing of rental units.

KOREA: URBAN LAND DEVELOPMENT PROJECT

Procedures and Policies for Site Selection and Pricing

1. For KLDC, the most important activity in determining its success and financial viability is the selection of sites which can be profitably marketed when development is complete. The policy for establishing the selling price of serviced land is also central to the Corporation's ability to financially sustain itself.

2. Site Selection. KLDC's program size is determined by reference to various national plans (see Annex 4). Sites are identified throughout the country by KLDC on the basis of criteria which allocate sites to regions and cities where housing conditions are poor and where there is likely to be demand for additional serviced urban land. An ongoing study, being conducted by local consultants to KLDC, has developed a framework which will help determine where the effective demand for serviced land is likely to be strong and which includes an extensive survey of the availability of sites suitable for development by KLDC. The results of this study will be used to improve KLDC's procedures in this area.

3. KLDC's 12 branch offices are responsible for identifying candidate sites, which are then subject to prefeasibility studies before acquisition begins. Once a positive prefeasibility assessment is made on a particular site, KLDC must submit it to MOC for consultation with other ministries to be "designated" under the Housing Site Development Promotion Law. "Designation" also permits KLDC to exercise acquisition procedures contained in the Land Expropriation Law.

4. Present Prefeasibility Study. Candidate sites are presently evaluated on the basis of their physical characteristics, the status of housing within the city, and estimates of the financial viability of the site. There are two important aspects of this analysis where the underlying assumptions need to be reexamined. First, the cost of the delay between completion of development of a site and sale is not explicitly calculated, although KLDC continues to incur costs until the site is sold. Second, in the absence of prior knowledge about the share of land which will be sold "at cost" for the public housing construction program, all revenues are forecast at appraised market prices, overstating the financial benefits to KLDC.

5. Recovering the cost to the Corporation of the funds invested in projects has not been a problem in the past, because land price increases have exceeded the cost of funds. Although average annual price increases in land are still greater than the cost of funds, the trend is toward a considerable slowing down compared to historical rates. Serious consideration is now being given on how to relax some of the constraints on the supply of land and housing, including some modification in the implementation procedures for the agricultural preservation laws and the general regulations governing changes in land use zoning. Over time, changes in these regulations could relieve some pressure on the land market and reduce the historically high rates of real increases in land prices. In contrast to appreciation

rates in the land market, real interest rates, presently about 8%, are at high levels. These two factors in combination, slower land price increases and high real rates of interest, could weaken KLDC's financial position. The second problem, concerning the method of estimating the expected revenue for KLDC of site sales, has not resulted in difficulties in the past, because the "market-priced" portion has generally brought higher prices than forecast. In a market of slower land price increases, relying on strong appreciation of the value of land and quick sales may be riskier than in the past.

6. Improved Economic and Financial Analysis. The prefeasibility study can be improved by applying the model suggested below. There are four basic variables for which information is required at the time a site is being considered:

- (a) the acquisition cost - based on appraised values, and the percentage to be paid in each year;
- (b) annual development costs during the development period, based on experience with similar types of works;
- (c) selling prices based on the appraised current value for similar developed land in the vicinity, along with an estimate of the probable annual increases in land prices during the development period; and
- (d) estimated percentage of the developed land which would be sold "at cost".

7. The proposed new economic and financial analysis is summarized in the attached Tables 1, 2 and 3. This analysis was applied to the main projects to be implemented in 1986-87. The economic benefits for projects are valued by taking the appraised market price for all saleable land. The calculation is made assuming no real increase in the market value of land during the period of development. If the economic rate of return (ERR) is found to fall below the minimum acceptable level (11%), a computation is made of the rate of land appreciation in excess of raw land inflation which would be required to obtain the minimum acceptable ERR. A sensitivity test is also made for the best estimate for land price increases and for the possibility that the actual selling prices are alternatively 10% and 15% below the projected level. Even if the project is economically justified, the viability from KLDC's point of view should be calculated as a financial rate of return (FRR). The FRR differs from the ERR in that the benefits are valued at the estimated actual selling prices for the various types of land developed within each site. Thus the FRR reflects the fact that KLDC does not receive the appraised market price for all plots on a site. All values are in constant prices.

8. Project Evaluation Criteria. In order to be approved for inclusion in the KLDC land development program, a project should comply with the following conditions:

- (a) a feasibility study should be carried out for each site;
- (b) the ERR should exceed the opportunity cost of capital, estimated at 11% ;
- (c) if the ERR is less than 11%, the rate of appreciation in land prices in excess of raw land inflation (i.e. the measurement of benefits) to raise the ERR to 11% is to be calculated and it should not exceed the expected trends in land values for the prospective site; and
- (d) the minimum FRR should exceed the average cost of funds to KLDC, presently estimated at 5% in real terms, and, if the FRR is lower, a calculation should be made of the present value of the transfer payment to KLDC which would be required to bring the FRR up to that level.

A project will not be included in KLDC's program if it fails to meet the minimum economic and financial rate of return criteria without a special justification being submitted to KLDC's Board of Directors for approval.

9. Present Pricing Policy. KLDC utilizes two reference points for determining the selling prices for developed land. Residential land for the public sector housing program and housing land sold to private contractors and individuals who agree to construct houses not larger than the maximum for the public program (25.7 pyong) are priced "at cost". Land for some priority industrial sites (i.e. to relocate polluting industries) and for public institutions such as schools is sold on the same basis. Residential land for larger houses is offered for sale at its appraised value, which is determined by the Korea Appraisal Board or independent private appraisers with reference to prevailing market prices. Land for commercial uses is sold by auction to the highest bidder with the appraised value being the minimum acceptable bid.

10. The cost of a specific site is estimated about one year before the project is scheduled to be completed in order to prepare a sales announcement. The "cost" is computed in three parts. The first part includes all direct payments to former land owners, contractors and other parties such as surveyors and service utilities. Second, two types of overheads are added to the total. KLDC first estimates assignable operational personnel costs, which are calculated as a percentage of all direct development costs each year and aggregated as a separate charge against project expenditures for each year that the site is under development. The second component of overhead is based on a forecast of other general and administrative expenses, as a percentage of direct costs for the year in which the project is expected to be finished, and is multiplied by the entire direct project costs plus the first overhead. The third element of project cost is an estimation of the cost of capital invested in the project during development. This is computed by inflating all costs to the expected date of completion at the prime commercial bank lending rate

prevailing throughout the period.

11. The total cost of a site is applied to the total saleable area and the "at cost" customers are charged the average cost per pyong for any plot(s) they may buy. The actual sales method for the "at cost" land is to announce the availability of a site about one year before completion and to specify the selling price as of the expected completion date. If the actual sale occurs later than the completion date no adjustment in the price is made. Although some buyers are asked to make partial payment in advance, no discount is given for prepayment. KLDC also provides limited financing for some purchasers and charges those who use this facility the prevailing commercial bank lending rate.

12. Improved Pricing Policy. The present methodology computes the costs in a manner which has permitted KLDC to recover its full costs from "at cost" buyers in the past, but which should be modified to take into account changes in the market for serviced urban land. If the rate of increase in land prices continues to fall, indicating less vigorous demand for developed land, KLDC needs to review its pricing strategy to assure continued full cost recovery and good marketability. First, a pricing model which explicitly considers variations in the selling date should be used. The best method would be to extend the charge for invested capital to the actual selling date. It would also provide an incentive for buyers to take up the land as soon after completion as they could. Second, the assumption that there will always be a market for "at cost" sales may be upset by the present practice of charging average site development costs to any plot within a site. KLDC's main public sector clients, particularly KNHC, also have the ability to acquire and develop land independently. If KLDC sites were not attractive to these clients, and they declined to purchase even a small number of sites, it could create a significant drain on KLDC's finances. It may therefore be necessary to consider allocating costs within a single site in a manner which takes into account the actual cost differentials within a site and the likely large variations in market values once a site is complete. This would avoid the situation where the calculated development cost is higher than the market value for some plots. A study could also be made as to whether costs could be allocated to specific plots in proportion to their projected appraised values giving the purchasers of various "at cost" plots a similar ratio of cost to market value. This has the advantage of providing an incentive for buyers to take less attractive but cheaper portions of a site. There is also the need to study the allocation of costs to specific plots when site development includes significant expenditures for facilities or features which will serve the entire city, or even the nation, rather than just the purchasers of the site. Finally, if some plots are to be sold in a less finished stage in the future, (as proposed in the plan to enter into collaborative development with the private sector), there is need for a careful analysis of how to compute the costs and selling price for such less finished plots. These issues would be analyzed under the Cost Allocation and Pricing Studies (Annexes 1 and 8).

KOREA - URBAN LAND DEVELOPMENT PROJECT

ANNEX 3 - TABLE 1

MODEL FOR THE FINANCIAL AND ECONOMIC EVALUATION OF LAND DEVELOPMENT SUBPROJECTS

INPUT DATA AND MAIN ASSUMPTIONS FOR THE EVALUATION OF THE YEONSEO SITE

YEARS	TOTAL	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
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INPUT DATA:

ALL VALUES EXPRESSED IN PRICES OF 1986

% REAL DISCOUNT RATE FOR COSTING THE DEVELOPED LAND	7.0%	% RESIDENTIAL LAND SOLD AT COST	80.00%						
% PHYSICAL CONTINGENCIES (OF DEVELOPMENT COST)	16.0%	% MANAGEMENT COST OF TOTAL COST	5.0%						
TOTAL RESIDENTIAL LAND SOLD, 1000 PY	1012.17	210.18	163.78	129.06	136.04	131.76	100.56	69.33	81.5
TRIAL RATE OF RETURN (Normally about 10%)	15.0%								

EXPECTED INCREASE IN REAL LAND PRICES (FOR SENSITIVITY ANALYSIS) 2.0%

PROJECT DEVELOPMENT:

1ST PHASE:	LAND ACQUISITION, 1000 PY	587.0	587.0								
	LAND ACQUISITION, MILLION WON	33602	33602								
	LAND DEVELOPMENT, 1000 PY	587.0	170.0	417.0							
	LAND DEVELOPMENT, MILLION WON	18772	8000	14772							
2ND AND OTHER PHASES:	LAND ACQUISITION, 1000 PY	1189.0	87.0	557.0		545.0					
	LAND ACQUISITION, MILLION WON	67380	13888	23067		31108					
	LAND DEVELOPMENT, 1000 PY	1178.0			230.0	314.0	182.0	182.0	181.0		
	LAND DEVELOPMENT, MILLION WON	62062			13886	13184	8854	8854	8315		

ENGINEERING AND DESIGN, Million Won 2140 380 384 713 713

RESULTS:

LAND SALES IN THOUSAND PYONG	%	TOTAL	ESTIMATED LAND SALE THOUSAND PY									
Commercial	10.8%	127.08			11.85	29.87	32.06	20.18	13.34	7.94	7.15	4.77
Industrial	0.0%	0.00										
Residential Land sold at market prices	42.2%	506.09	0.00	0.00	105.07	78.90	84.53	88.02	65.88	50.28	34.87	40.78
Residential Land sold at Cost	42.2%	506.09	0.00	0.00	105.07	78.90	84.53	88.02	65.88	50.28	34.87	40.78
Public Land sold at Cost	5.0%	60.50			12.83	4.31	4.24	8.77	12.10	10.58	7.58	
TOTAL LAND SOLD	100.0%	1196.73	0.00	0.00	234.71	188.07	185.34	185.00	157.20	119.09	84.04	88.28

LAND PRICES:	ESTIMATED MARKET PRICE WON/PY	VALUE OF LAND SOLD [MARKET] MILL.W	PRICE FOR LAND AT COST SALE REVENUES WON/PY	LAND SALES MILL.W	% OF SALES
Commercial	500000	83630	500000	83630	24.7%
Industrial	0	0	0	0	0.0%
Residential, (at market prices)	180000	91085	180000	91085	35.4%
Residential (at Cost)	180000	91085	180818	91509	35.6%
Public Land (at Cost)	180000	10880	180818	10840	4.3%
TOTAL	213880	256811	214277	257074	100.0%

15-Apr-88

KOREA - URBAN LAND DEVELOPMENT PROJECT

MODEL MODEL FOR THE FINANCIAL AND ECONOMIC EVALUATION OF LAND DEVELOPMENT SUBPROJECTS

ANALYSIS OF DATA AND INDICATORS FOR THE YEONGBU SITE PROJECT

PROJECT SUMMARY

		TOTAL	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
1ST PHASE:	LAND ACQUISITION, ANNUAL % OF COST	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1
	LAND DEVELOPMENT	100.0%	0.0%	25.3%	74.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1
2ND AND:	LAND ACQUISITION, ANNUAL % OF COST	100.0%	0.0%	20.2%	34.0%	0.0%	45.8%	0.0%	0.0%	0.0%	0.0%	0.1
OTHER	LAND DEVELOPMENT	100.0%	0.0%	0.0%	0.0%	25.8%	25.3%	16.0%	16.0%	16.0%	0.0%	0.1
UNIT PRICE LAND ACQUISITION, 1ST PHASE, WON/PYONG		57073	0	57073	0	0	0	0	0	0	0	0
	2ND PHASE, WON/PYONG	57073	0	157448	41385	0	57073	0	0	0	0	0
UNIT PRICE LAND DEVELOPMENT, 1ST PHASE, WON/PYONG		33683	0	29412	35424	0	0	0	0	0	0	0
	2ND PHASE, WON/PYONG	42778	0	0	0	41824	42018	45901	45901	45938	0	0
TOTAL LAND ACQUISITION, 1000 PY		1778.00	0.00	674.00	857.00	0.00	845.00	0.00	0.00	0.00	0.00	0.00
TOTAL LAND DEVELOPMENT, 1000 PY		1778.00	0.00	170.00	417.00	330.00	314.00	188.00	182.00	181.00	0.00	0.00
TOTAL LAND SOLD (1000 PY), OF WHICH		100.0%	1199.73	0.00	0.00	234.71	189.07	185.34	185.00	187.30	119.08	84.04
Land Sold at Cost, 1000 Py		47.2%	568.88	0.00	0.00	118.00	81.21	88.77	78.78	77.38	60.87	42.23
Land Sold at Market Rates, 1000 Py		52.8%	633.18	0.00	0.00	116.72	108.87	96.58	106.21	79.22	58.22	41.82
PROJECT CYCLE:	Cumulative Land Acquisition, 1000 Py		0	674	1231	1231	1776	1776	1776	1776	1776	1776
	Cumulative Land Development, 1000 Py		0	170	587	917	1231	1413	1595	1776	1776	1776
	Cumulative Land Sold, 1000 Py		0	0	235	423	588	753	910	1028	1113	1200
	% Developed of Land Acquired		0.0%	25.2%	47.7%	74.8%	89.3%	78.6%	89.8%	100.0%	100.0%	100.0
	% Sold of Land Developed		0.0%	0.0%	40.0%	46.1%	47.0%	53.3%	57.1%	58.0%	62.7%	67.6
TOTAL INVESTMENT, MILLION WON:												
Land Acquisition	52.8%	101382	0	47200	23057	0	31105	0	0	0	0	0
Land Development	37.5%	71824	0	5000	14772	13835	13184	8354	8254	8215	0	0
Engineering & Design	1.1%	2140	350	364	713	0	713	0	0	0	0	0
Physical Contingencies	3.7%	7182	0	500	1477	1384	1319	835	813	832	0	0
Construction Management	4.8%	9125	18	2653	2001	781	2317	459	459	457	0	0
TOTAL INVESTMENT, MILLION WON	100.0%	181634	368	55717	42020	15878	48546	9648	9648	9604	0	0
Residential Sales at Market, Million Won	26.1%	91085	0	0	18912	13841	11615	12244	11858	9050	8240	7339
Commercial Sales, Million Won	19.2%	83530	0	0	5825	14985	18025	10095	8670	3870	3878	2385
Industrial Sales, Million Won	0.0%	0	0	0	0	0	0	0	0	0	0	0
SALES AT MARKET PRICES, MILLION WON	44.4%	154625	0	0	24737	28828	27640	22339	18528	13020	9815	9721
Average Market Price Won per Py		152765	0	0	117721	187438	214177	184206	140822	129478	141585	119280
Residential Sales at Cost, Million Won	26.3%	91509	0	0	18988	13904	11657	12299	11812	9092	8268	7389
Public Land Sales at Cost, Million Won	29.4%	102449	0	0	2338	779	767	1586	2188	1815	1367	0
TOTAL SALES AT COST, MILLION WON	55.8%	193958	0	0	21338	14683	12434	13885	14100	11008	7635	7389
TOTAL LAND SOLD:	100.0%	348584	0	0	48072	43508	40073	38224	32628	24027	17450	17090

KOREA - URBAN LAND DEVELOPMENT PROJECT

MODEL MODEL FOR THE FINANCIAL AND ECONOMIC EVALUATION OF LAND DEVELOPMENT SUBPROJECTS

FINANCIAL AND ECONOMIC EVALUATION OF THE YEONDOO SITE.

Units: Thousand Square Meters (TM), Million Won (MW)

Years	(A) Land Acqui- sition	(B) Cost of Land Acquired	(C) Land Develop- ment Cost	(D) Develop- ment Cost	(E) Engineer- ing & Over- head	(F) Total Land Develop- ment Cost	(G) Total Saleable Land	(H) Revenue from Land at market Price	(I) Estimate value of Land sold at Cost	(J) Total Econo- mic Land Value	(K) Net Econo- mic Benefits	(L) Cost of saleable develo- ped Land W/sq m	(M) Revenue from public Land sales	(N) Financial Revenue for KLDC	(O) Financial Net Benefits for KLDC
Units	TM	MW	TM	MW	MW	MW	TM	MW	MW	MW	MW	MW	MW	MW	MW
1985	0	0	0	0	388	388	0	0	0	0	-388	54783	0	0	-388
1986	2224	47200	581	5000	3817	55717	0	0	0	0	-55717	54783	0	0	-55717
1987	1838	25057	1378	14772	4191	42020	776	24737	21230	46876	3888	54783	21338	48072	4032
1988	0	0	1088	13835	2144	15879	821	28828	14817	43448	27484	54783	14883	43808	27830
1989	1788	31105	1038	13184	4348	48848	546	27640	12378	40017	-8831	54783	12434	40073	-8874
1990	0	0	801	8354	1285	8848	545	22338	13822	38161	28512	54783	13885	38224	28575
1991	0	0	801	8354	1285	8848	518	18528	14036	32585	22918	54783	14100	32828	22980
1992	0	0	587	8315	1288	8804	393	13020	10857	23877	14373	54783	11008	24027	14423
1993	0	0	0	0	0	0	277	9815	7881	17415	17415	54783	7835	17480	17480
1994	0	0	0	0	0	0	280	8721	7336	17057	17057	54783	7388	17080	17080

TOTAL 5881 101382 5881 71824 18448 181834 3888 154825 101885 288811 84877 547835 102448 257074 85440

LAND ACQUIRED, DEVELOPED AND SOLD:

	Acquisition	Development	Land Sales	
Land Area - TM	5881	5881	3858	Saleable Land as % of Land acquired 57.8%
Average Price Won/sq m	17285	15403	64832	Nominal Profit Margin (excluding interest) 34.1%

COST OF LAND AT DISCOUNT RATE OF 7.0% PRESENT VALUES

Present Value of Total Cost (F), W Millions	148214
Present Value Saleable Land (G), thousand sq m	2705
Marginal Cost to KLDC, Won per sq m of saleable Land	54783 in constant prices of 1985

ECONOMIC ANALYSIS:

	No Incre- se in Prices of land sold	If Land Prices increase 2.0% p.a.	If Sales are 10.0% Lower	If Sales are 15.0% Lower
[1] Economic Rate of Return of the project is:	18.3%	24.2%	11.1%	7.5%
[2] The financial rate of return for KLDC is:	18.5%	22.1%	11.2%	7.6%
[3] To achieve at least an economic rate of return of 10% land sales revenues should be increased				0.0%
[4] The financial return should be higher than 7.0% or KLDC would require subsidies of W Million to finance 0% of the investment.				0

1] Cost of saleable, developed Land in 1985 constant prices. At a real Interest (discount) Rate of ————>	5.0%	7.0%	9.0%	11.0%
Present Value of Total Cost (F), W Millions	159007	148214	138470	129847
Present Value Saleable Land (G), thousand sq m	3002	2705	2448	2219
Marginal Cost to KLDC, Won per sq m of saleable Land	52972	54783	56810	58421

KOREA

URBAN LAND DEVELOPMENT PROJECT

KLDC's Programs and the Proposed Project

1. KLDC is one of the largest public corporations in Korea. Its development plans are based on Government's targets under the current Fifth Five-Year Economic and Social Development Plan (1982-1986) and the proposed Sixth Plan (1987-1991). These targets have been included in KLDC's Long-Term Management Plan (LTMP, 1985-91), which was developed with the assistance of advisers and consultants from local universities, research organizations and government agencies and approved by its Board in December 1984. The LTMP describes the main activities as follows:

(a) Land Development with two separate components:

(i) housing site development; and

(ii) industrial site development;

(b) Urban Renewal;

(c) Land Transactions; and

(d) Institutional Development.

Land Development Program

2. The Land Development Program is KLDC's main activity. Under this program, unserviced sites within municipal boundaries are identified and requested for urban development (see Annex 3). After statutory approval the site is purchased, normally consolidating many small properties, the land is rezoned and planned in accordance with the local City Master Plans and national planning regulations and criteria, and a development plan including feasibility study and detailed engineering is prepared. The main development work includes site preparation and provision of infrastructure (roads, water, drains, sewerage, etc.). Site planning also includes serviced plots for the associated community facilities (schools, markets, shops, parks and playgrounds, etc.). Between 1982 and 1985, KLDC supplied about 2,580 ha of serviced land country wide for urban development, with total investments of about W 798 billion (71% for land acquisition). Between 1986 and 1989, KLDC proposes to acquire about 3,640 ha of land, and supply about 3,760 ha of serviced land with total investments of about W 1,575 billion (\$1,849 million), which indicates a considerable real increase in the unit cost of land. The two components of this program are described below:

3. Housing Site Development. KLDC's main objective and major priority is the development of residential land for the Public Housing Construction Program (PHCP). An annual housing construction plan, based on the current Fifth Plan, is reviewed and approved by the Housing Policy Review Committee (HPRC) under the Chairmanship of the Economic Planning Board (EPB). The President of KLDC is also a member of the HPRC. The housing construction plan provides annual targets

for the construction of housing units and housing site development areas and allocates shares for public and private sector development. The PHCP also sets targets for the share of the output to be accomplished by the public sector. KLDC prepares its annual housing site development plan based on the approved housing construction plan. Table 1 shows the annual master plan targets for housing construction and housing site development under the Fifth and preliminary Sixth Plans.

4. Low-Income Housing. PHCPs are the main instrument for the construction of housing units for lower-income homeowners with units being designed to be affordable to urban households between the 25th and 50th percentiles of the income distribution. Planning and quality standards, including maximum unit size and land use per unit, are set by MOC's Housing Bureau and incorporated into KNHC and local governments' detailed designs for each housing site. Generally, public housing construction sites are planned for population densities of about 110-160 persons per ha (pph) in semi-detached, single-story core houses, 120-220 pph in two-story row houses and about 260-540 pph in five-story apartment complexes. Land use planning normally follows the criteria shown in Tables 2 and 3. Housing sites are planned to accommodate a range of sizes and types of housing units. In 1985, a typical unit of 50 sq. m. was sold for about W 13.5 million and was affordable to the 20th percentile. Unit sizes range from 30 to 85 sq. m. and are distributed between single-story semi-detached core housing, two-story row housing and five-story walk-up apartments, based on demand surveys and sales experience in each locality. Generally, at the site planning stage, KLDC and potential PHCP developers agree on the location, extent and service standards for each site. The site is then planned based on the local demand projections, costs, physical characteristics and city master plans. KLDC plans to allocate, on average, about forty percent of the developed housing sites for PHCP developers. Developed blocks of land are handed over to the respective housing developers for housing construction and provision of tertiary infrastructure to each plot. Depending on its size a housing development site would be fully developed with public housing 3 to 5 years after the land is acquired. Typically the housing construction is completed 12-18 months after the developed land is supplied.

5. Middle- and Upper-Income Housing. KLDC also supplies a minor part of the developed land for private sector housing construction, which largely serves the income groups over the 50th percentile. These sites are sold at appraised prices. However, since demand normally exceeds supply, a lottery is often required to allocate available sites. Housing on these plots is constructed by the individual owners, following local building regulations, and using small building contractors. Typically, housing construction is completed within three years of sale of plots.

6. Program Size. Between 1982 and 1984, public sector housing construction accounted for 38% of the 687,000 new dwelling units built. Virtually all housing units, including the public sector units, are constructed by private sector builders with about 20,000 small builders producing about 60% of the total. During the Fifth Plan KLDC would supply about 3,950 ha (24% of the total housing site development and about 56% of the public sector site development included in the PHCP). During this period, KLDC would supply about 43% of its housing sites to KNHC and about 9% to other PHCP developers. Total housing site development includes small infill sites and individual plots which are already serviced. Practically all large parcels of new urban housing land are being developed by KLDC, KNHC and local governments. During the Six Plan (1987-1991), KLDC's plans to supply about 3,300 ha of newly serviced residential land. This constitutes about 17% of the residential land requirements of the housing construction plan, or about 31% of the requirements of the PHCP. KLDC's planned program is consistent with the Five-Year Plan targets (1987-1991) for KLDC. Tables 4 and 5 give details of KLDC's actual and projected physical development and investment programs between 1980 and 1992.

7. Program Distribution. The annual targets of KLDC's plan are distributed among the nine provinces and the cities of Seoul, Incheon and Busan based on an analysis of the economic situation in a particular municipality or locality, the housing needs, the availability of suitable sites and the HPRC-approved housing construction and housing site development plan. Normally about one-third of KLDC's program has been in the three major cities but in 1985 the share reached almost one-half due to the development of a large site in Seoul (Godak). The balance was allocated to other regions, varying from 3% for Kangwon Province to 12% for Gyeonggi Province.

8. New Town Development. From time to time KLDC is designated by the Government as its agency to develop new towns or expand an existing town area. At present, KLDC's Land Development Program includes the development of two large sites within Taejeon City: one, the Daeduk site designated as the location for many research and academic institutions, and the other, the Doosan site for expansion of the city's central area. These two sites would provide the serviced land for housing, commercial and official construction required to decentralize, from Seoul, selected research institutions, government departments and agencies. The Daeduk site is being developed with acquisition having started in 1984, and site development would be completed in 1987. Plots are being paid for in advance by the institutions transferring there and are urgently required by them. KLDC awarded one contract for this site development under normal LCB procurement procedures through OSROK. The Doosan site, after its five phases are completed, would provide about 790 ha for administrative, commercial and housing purposes and is presently scheduled for completion by 1992.

Industrial Site Development Program

9. KLDC, at Government's request, undertakes the development of specific industrial sites to implement industrial and environmental policies. The only important project under execution is the development of the Namdong Industrial Estate in Incheon, which would provide 900 ha of serviced industrial land for the relocation of selected industries from Seoul. Land acquisition would be completed by 1987 and development by 1989. Stage 1 of this site is under development and feasibility studies for Stage 2 are now being undertaken. Housing requirements, complementary to this industrial site, are being provided in an adjacent 590 ha housing site which is also included in the program.

Program Implementation

10. Site development work is contracted to registered civil works contractors on the basis of competitive bidding. Bidding and contract award are carried out by OSROK on behalf of KLDC. Contract execution is the responsibility of KLDC's Branch Offices, whose technical divisions have experienced staff for this purpose. A development site is supervised by resident technical staff reporting to the nearest regional Branch Office. Typically, KLDC takes about 12 to 24 months between approving a site and gaining its ownership. KLDC awards contracts and develops and supply the land within two to four years.

Urban Land Renewal Program

11. This program, started in 1984 on a pilot basis, is designed to find solutions to the problems of substandard service levels, overcrowding, fragmentation of ownership, and lack of planning in old neighborhoods. The program is expected to demonstrate the viability of redevelopment of old areas, and to provide for improved land use adequate service levels with suitably planned and constructed buildings and proper environmental conditions. Under this program, fully rebuilt sites, including buildings, would be sold by KLDC. Such a program, if proved viable, could become one of KLDC's main activities, which could also include upgrading of older housing areas as an alternative to demolition and rebuilding.

Land Transactions Program

12. During the 1970s, investment in land was more attractive than most other investments. Many enterprises owned scarce urban land, unrelated to their business-related functions, which was left idle and used only as collateral for bank loans and guarantees while land prices appreciated rapidly. KLDC was given the responsibility, under the National Land Use Management and the Capital Region Improvement Planning Laws, to redeem such idle land, not only to provide liquidity for the enterprises, but also to increase the supply of urban land. This program enables KLDC to continue the "land banking" functions of the former Korea Land Bank which it succeeded. Under this program,

KLDC purchases and supplies undeveloped land for private sector development in tailored parcels at stable prices. In 1982, the peak year, KLDC supplied about 5,030 ha of ordinary land to the private sector. The program has now stabilized with KLDC planning to purchase about 200 ha of land under this program. Tables 4 and 5 give details of this program.

13. Although the above programs constitute the bulk of KLDC's present activities, and would continue to do so for the foreseeable future, the LTMP envisages that the Corporation should explore possibilities of engaging in other activities aimed at enhancing its impact on the urban land development sector. KLDC would, as part of these initiatives, formulate a long-term master plan for reclamation of marginal lands and tidelands and prepare a program of land reclamation and development. In the initial phase, this would involve the study of foreign experiences in this type of activity and the development of strategies for large-scale land reclamation. A local research institute has been engaged to make the necessary preliminary studies before formulation of a plan for this purpose. KLDC also proposes to establish a research capability in all aspects of land, including a comparative study of land systems in major countries and a data base of land prices and statistics.

Institutional Development Program

14. To improve its productivity and efficiency, KLDC plans to implement a program of institutional improvements. The institutional development program is fully described in the PSIDP and in para. 3.03 (a). In addition, KLDC is also looking at other longer-term objectives in the following areas:

- (a) improvements in organization and management systems, and the introduction of management-by-objectives;
- (b) strengthening of human resources by improvements in personnel management, recruitment, staff training and motivation;
- (c) introduction of new technologies, including economic and financial investment evaluations, standardization of design and construction techniques, centralized computerized systems for payroll and accounts, and microcomputer systems for planning, evaluation and management information; and
- (d) improvements in public relations and customer service.

Project Description

15. The proposed project would support KLDC's Land and Institutional Development Programs between 1986 and 1989. These programs are described in paras. 2.03 and 3.03. The areas to be developed and supplied each year are shown in Table 4, while the respective investments are shown in Table 5.

16. The project description is presented in para. 3.03. The annual areas to be developed during the years 1986 to 1989 are detailed in Table 5, and the project investments are summarized in Table 7. The financing plan, and project implementation, including procurement and disbursement arrangements, are described in paras. 3.07 to 3.10.

17. KLDC would employ the services of local consultants experienced in urban planning, landscape architecture and engineering for project planning and design and, as necessary, would employ the services of research institutions and universities and specialized consultants to prepare its overall plans and review its systems and methodologies. It also employs qualified professional land valuers to appraise land prices before acquisition and sale. These consultant services totalling about 1,000 man-months are estimated to cost about 0.3% of annual program costs. In order to develop and retain internal expertise on institutional and management improvement matters, KLDC plans to have its own staff take primary responsibility for most of the studies proposed in the PSIDP, with the support of advisors and consultants where appropriate. These studies and engineering costs would be indirectly financed by the Bank loan, which would provide disbursements only for large civil-works contracts.

KOREA

ANNEX 4 - TABLE 1

URBAN LAND DEVELOPMENT PROJECT

MASTER PLAN FOR PUBLIC HOUSING DEVELOPMENT IN KOREA

	ORIGINAL PLAN 1982-86	REVISED PLAN 1982-86	ACTUAL RESULTS 1982-86	PRELIMINARY PLAN 1987-91	REAL			1985	1986	1987	1988	1989	1990	1991
					1982	1983	1984							
NUMBER OF HOUSING UNITS (THOUSAND)														
TOTAL HOUSING UNITS	1460	1417	1417	1780	191	226	270	330	400					
BY PRIVATE SECTOR	690	807	807	750	123	144	160	180	200					
BY PUBLIC SECTOR	570	610	610	1010	68	82	110	150	200					
% BY PUBLIC SECTOR	39.0%	43.0%	43.0%	57.4%	35.6%	36.3%	40.7%	45.5%	50.0%					
HOUSING SITE DEVELOPMENT (THOUSAND SQ METERS)														
TOTAL HOUSING SITE SUPPLY	292480	188630	185558	190388	32820	32848	39888	34180	26041	36833	37620	38129	38384	38422
BY PUBLIC SECTOR	125584	96529	93457	108521	18390	18438	25369	19770	11480	20995	21443	21734	21879	22470
Korea Land Development Corp.		47600	39481	33194	8515	7788	7321	9588	8281	8774	7742	9843	8838	0
Korea National Housing Corp.		13049	18049	25109	2503	2540	7848	3308	2052	4710	4587	4297	4014	7480
Local Governments		35880	35917	50218	7372	8110	10400	8878	3157	8411	8134	8584	8029	14880
BY PRIVATE SECTOR	156896	72101	72101	81867	14430	14410	14320	14390	14551	15838	16177	16385	16505	16952
% BY PUBLIC SECTOR	44.5%	57.2%	58.4%	57.0%	56.0%	56.1%	63.9%	57.9%	44.1%	57.0%	57.0%	57.0%	57.0%	57.0%
% BY KLDC ON TOTAL	0.0%	28.2%	23.9%	17.4%	26.9%	23.7%	18.4%	28.1%	24.1%	18.4%	20.8%	23.2%	25.6%	0.0%
% KLDC ON PUBLIC	0.0%	48.3%	42.3%	30.6%	48.3%	42.2%	29.9%	48.6%	54.7%	32.3%	38.1%	40.7%	45.0%	0.0%
AREA PER HOUSING UNIT (SQ M)	193	119	117	108	172	145	147	104	65					

KOREA

ANNEX 4 - TABLE 2

URBAN LAND DEVELOPMENT PROJECT

CRITERIA FOR LAND USE PLANNING

STATUTE	PLANNING CRITERIA						
Architectural Law & Housing Construction Regulations	Use Zone	Lot Size (min)	Building Ratio %	Volume Ratio %	House Type	Lot Width (min)	Lot Size per Unit
	Green Area	800 sq.m.	20	80	Detached house	> 8 m.	80 sq.m.Min.
	Res. Area	80 sq.m.	80	300	Row house	> 10 m.	
	Ind. Area	330 sq.m.	80	300	Apartment	> 80 m.	100x200 Min.
	Comm. Area	330 sq.m.	70	1000			
City Planning Law Road Classification	Road Ratio	Total %	Main Roads %	Feeder Roads %			
	Res. Area	20-27	5-8	15-18			
	Comm. Area	28-37	10-15	18-22			
	Ind. Area	10-20	5-10	5-10			
	Road Widths	Arterial Road		Medium Road	Small Road		
		Major		Minor			
		>40 m.					
	1st. Class		35-40 m.	20-25 m.	10-12 m.		
	2nd. Class		30-35 m.	15-20 m.	8-10 m.		
	3rd Class		25-30 m.	12-15 m.	< 8 m.		
Housing Construction Regulations	Road Spacing						
	Between Major Roads			1000 m.			
	Between Major and Minor Arterials			500 m.			
	Between Minor Arterials and Feeders			250 m.			
	Between Feeder Roads			30-60 m.			
	Max. Length of Feeder road			120-150 m.			
	On Site Roads				Access Roads		
	Households (number)	Road Width (minimum)	Households (number)	Road width (minimum)			
	< 100	4 m.					
	100-300	6 m.	<300	8 m.			
	300-500	8 m.	300-500	10 m.			
	500-1000	12 m.	500-1000	12 m.			
	> 1000	18 m.	>1000	18 m.			

KOREA

ANNEX 4 -TABLE 3

URBAN LAND DEVELOPMENT PROJECT

KLDC'S SITE PLANNING CRITERIA AND DESIGN STANDARDS

COMMUNITY FACILITIES		Type	Distance	Dwelling Type		Remarks
Commercial Facilities	Store		100-250 m.	Family Units 20	Family units 40	0.8 sq.m./unit
	Shopping Center		250-500 m.	1	1	2000-4000 sq.m.
	Market					3000-10000 sq.m.
	Cooperatives					for over 5000 units
	Super Market (agr & fish.)					1/1000 units
						1/5000 units
Educational Facilities	Kindergarten		250-300	2	2	Playground >200 sq.m.
	Elementary School		500-1000	-	1	Classroom >50sq.m./class
						Playground >5000 sq.m.
	Junior high School			1 per two neighbourhood units		Classroom > 80 sq.m./class
	Senior High School			1 per 2-3 neighbourhood units		Building ratio <40%
						Playground >7000 sq.m.
						Classroom >80 sq.m./class
						Building Ratio < 40%
						Playground >7000 sq.m.
						Classroom >80 sq.m./class
						Building Ratio < 40%
Recreational Areas	Playground		250-400	2	4	>1500 sq.m.
	Neighbourhood Park		500-1000	1	1	>10000 sq.m.
	Rest Places			1	2	
Others	Doctors Office		500-1000	1	1	
	Religious		1000-1500	-	1	
	Nursery School		300-500	1	2	

SITE PLANNING

Population Density Persons per Ha	Classification		Sub-Neigh- bourhoods	Neighbourhoods
			500-600 Units	2000-3000 Units
Detached House	Low Density		120	110
	Medium Densit		140	130
	High Density		180	150
Row House	Low Density		150	120
	High Density		220	200
Apartment	Low Density		300	280
	Medium Densit		420	380
	High Density		540	480

Land Use Ratio (%) by House Type	Classification	Residential	Commercial	Green Area	Roads	Remarks
Detached House		70-80	2-5	3-7	15-25	Subneighbourhoods 500-600 Households
	Row House	50-60	5-10	3-10	15-25	
	Apartment					
	3-5 Storey	50-60	5-10	5-10	15-25	
	6-10 Storey	50-60	5-10	10-15	15-25	
	>11 Storey	50-60	5-10	15-20	15-25	
Detached House		65-75	5-15	5-15	15-25	Neighbourhoods 2000-3000 Households
	Row House	40-55	5-15	5-15	15-25	
	Apartment					
	3-5 Storey	40-55	10-20	10-25	15-25	
	6-10 Storey	40-55	10-20	15-25	15-25	
	>11 Storey	40-55	10-20	15-25	15-25	

KOREA

ANNEX 4 - TABLE 4

URBAN LAND DEVELOPMENT PROJECT

LAND DEVELOPMENT IN THOUSAND SQUARE METERS

PROGRAMS	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
A. LAND DEVELOPMENT PROGRAM:													
A1. LAND ACQUISITION	2831	2898	3180	7420	7885	12728	8675	9115	9801	9712	9583	10542	11898
Total For Housing	1823	8140	3187	4718	8176	8273	8000	8800	7280	2712	8823	10842	11898
Of which Project I 1)	818	4858	2448	183	82	88							
Of which Project II		341	1378	2478	2183	888							
For Industrial Sites	888	188	13	2701	1680	6455	8875	2515	2341				
A2. LAND DEVELOPMENT	2780	5888	8808	7385	7279	7523	8814	10128	9170	8277	9183	9514	10485
For Housing	783	2784	8340	7375	8717	8225	7800	8202	8582	7352	8451	8814	10485
Of which Project I		1578	4434	2188	17								
Of which Project II				2881	2892	1018	122						
For Industrial Sites	1887	2812	588	20	582	2298	2314	3827	2518	1825	702	0	0
B. URBAN LAND RENOVATION	0	0	0	0	8	28	17	13	12	12	12	10	10
Compensation					8	28							
Building Construction Area							17	13	12	12	12	10	10
C. ACQUIS. TRANSACTION LAND	1875	3184	50280	7081	2841	2898	2500	1980	1980	1980	1980	1980	1980
TOTAL LAND PROCESSED	8848	45088	80388	21908	15803	22878	21408	21237	20783	18881	20728	22045	24881
D. LAND SUPPLIED:													
D1. DEVELOPED LAND SUPPLIED	320	1417	7838	8727	4488	7038	9600	10487	9584	9288	9173	9194	9838
For Housing	8	1378	8688	4855	3801	4273	8800	8148	8281	8774	7742	8843	9838
Of which Project I		23	1238	1588	1172	802							
Of which Project II				13	878	2112	1378						
For Industrial Sites	315	41	871	2172	885	2788	3100	4348	3313	2514	1431	351	0
D2. REDEVELOPED BUILDINGS									24	44		45	74
D3. TRANSACTION LAND	483	3085	40020	7047	18231	14828	3471	3500	3500	3500	3500	3500	3500
TOTAL LAND SUPPLIED	783	4482	47589	13774	22727	21635	13071	13987	13118	12832	12873	12739	13410

1) Project I is the First National Urban Land Development and Housing Project (Loan 1880-K0). Project II is the Second National Urban Land and Housing Project (Loan 2216-K0)

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ANNEX 4 - TABLE 8

URBAN LAND DEVELOPMENT PROJECT

INVESTMENTS AND SUPPLY OF LAND (BILLION WON)

PROGRAM INVESTMENTS	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
A. LAND DEVELOPMENT PROGRAM	24,180	187,848	186,748	129,578	189,807	281,005	388,378	380,388	403,882	488,588	542,780	636,881	748,281
A1. LAND ACQUISITION	18,348	188,318	88,818	88,378	141,712	278,880	235,538	288,884	313,128	387,482	438,888	518,888	608,788
For Housing	11,788	87,818	88,341	88,382	138,888	218,384	284,880	248,332	284,824	387,482	438,888	518,888	608,788
Of which Project I	4,888	88,188	17,388	1,188	1,487	1,381							
Of which Project II		8,841	18,888	38,887	88,382	18,887							
For Industrial Sites	7,888	4,888	8,177	8,817	8,824	88,388	31,838	28,882	28,883	8,888	8,888	8,888	8,888
A2. LAND DEVELOPMENT	14,781	84,888	88,228	48,187	51,788	72,188	81,841	81,484	88,888	88,124	107,781	138,841	138,871
For Housing	8,788	13,818	44,878	44,281	48,383	88,887	78,888	84,818	71,882	84,788	102,228	128,841	138,871
Of which Project I	8,888	8,788	17,888	88,782	8,848	8,488	8,818						
Of which Project II			8,188	7,888	18,787	18,811	2,888						
For Industrial Sites	8,812	11,113	8,147	8,888	4,882	8,328	18,841	28,874	18,873	14,418	8,822	8,888	8,888
B. URBAN LAND RENEWAL	8,888	8,888	8,888	8,888	14,348	7,883	12,888	8,848	7,888	7,388	7,728	8,888	8,488
Compensation				8,888	14,321	7,888	8,888						
Building Construction Area					8,117	8,223	12,888	8,848	7,888	7,388	7,728	8,888	8,488
C. ACQUIS. TRANSACTION LAND	28,248	128,788	186,777	88,831	118,418	81,848	88,188	48,314	81,388	83,387	88,824	88,488	82,427
D. ENGINEERING & OVERHEAD				3,882	4,174	8,848	8,178	8,482	8,738	8,878	8,488	7,348	8,487
TOTAL INVESTMENT PROGRAM	82,348	888,883	381,817	228,888	327,444	428,842	482,881	421,374	487,788	533,748	613,827	718,781	828,718
TOTAL INVESTMENT US\$ Million	188,84	388,82	412,48	282,41	488,27	484,71	487,78	488,37	532,58	642,52	783,48	888,88	1087,87
D. LAND SUPPLIED:													
D1. DEVELOPED LAND	4,831	18,888	132,238	113,812	221,788	248,312	434,888	481,838	488,877	514,288	588,832	684,882	888,288
For Housing	8,181	8,788	128,833	82,884	288,488	188,282	344,888	348,888	383,711	448,388	547,831	673,448	888,288
Of which Project I		8,888	82,734	48,882	188,842	28,883							
Of which Project II				8,233	43,472	88,787	37,888						
For Industrial Sites	4,888	8,741	11,882	21,888	21,288	87,118	88,888	182,888	84,388	88,812	42,281	11,148	8,888
D2. RENEWED BUILDINGS									18,887	38,788		44,888	43,488
D3. TRANSACTION LAND	14,288	88,888	138,318	88,882	118,828	112,248	82,888	88,148	88,881	83,888	88,412	73,828	78,242
TOTAL LAND SUPPLY	18,481	87,888	288,148	288,874	338,728	387,882	488,888	587,878	648,888	618,823	658,444	883,182	928,882

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ANNEX 4 - TABLE 6

URBAN LAND DEVELOPMENT PROJECT

LAND DEVELOPMENT AND SUPPLY UNDER THE PROJECT - (THOUSAND SQUARE METERS)

	TOTAL	1986	1987	1988	1989
LAND ACQUISITION	38409	8875	9115	8801	8712
For Housing	28872	8000	8800	7280	8712
For Industrial Sites	7881	2875	2815	2341	0
LAND DEVELOPMENT	38388	9782	10128	9170	9277
For Housing	27584	7478	8202	8882	7352
For Industrial Sites	10784	2314	3827	2618	1885
LAND SUPPLY	37802	8222	10487	8864	8288
For Housing	24326	8122	8148	8281	8774
For Industrial Sites	13278	3100	4348	3313	2814

ANNEX 4 - TABLE 7

URBAN LAND DEVELOPMENT PROJECT - PROJECT COST

	BILLION WON			% of Base Cost	MILLION US\$			% Foreign	MILLION US\$			
	Local	Foreign	Total		Local	Foreign	Total		1986	1987	1988	1989
LAND ACQUISITION	888.02		888.02	74.4%	1122.75		1122.75	0.0%	248.84	267.54	280.17	318.40
For Housing	810.40		810.40	68.8%	1034.85		1034.85	0.0%	215.35	238.13	253.88	318.40
For Industrial Sites	77.82		77.82	5.8%	88.20		88.20	0.0%	33.28	28.41	26.51	0.00
LAND DEVELOPMENT	218.44	104.88	324.12	24.4%	248.37	118.98	368.32	32.3%	98.80	92.88	87.57	91.28
For Housing	175.13	83.54	258.68	18.5%	188.02	94.94	283.96	32.3%	80.84	85.80	88.51	78.00
For Industrial Sites	44.31	21.14	65.45	4.9%	50.35	24.02	74.37	32.3%	15.96	27.08	18.08	13.27
ENGINEERING & ADMINISTRATION	11.81	3.87	15.48	1.2%	13.18	4.40	17.58	25.0%	4.38	4.43	4.44	4.33
BASE COST - JAN/1988 PRICES	1219.07	108.85	1327.82	100.0%	1385.31	123.35	1508.66	8.2%	348.83	384.85	382.18	412.00
PHYSICAL CONTINGENCIES	80.85	5.43	86.38	5.0%	88.27	6.17	94.43	8.2%	17.48	18.24	18.11	20.80
PRICE CONTINGENCIES	186.90	14.02	181.01	13.6%	244.45	20.48	264.93	7.7%	8.70	40.50	81.01	134.72
TOTAL COST	1447.01	128.00	1575.01	118.8%	1689.02	150.00	1849.03	8.1%	375.81	423.59	482.30	567.33

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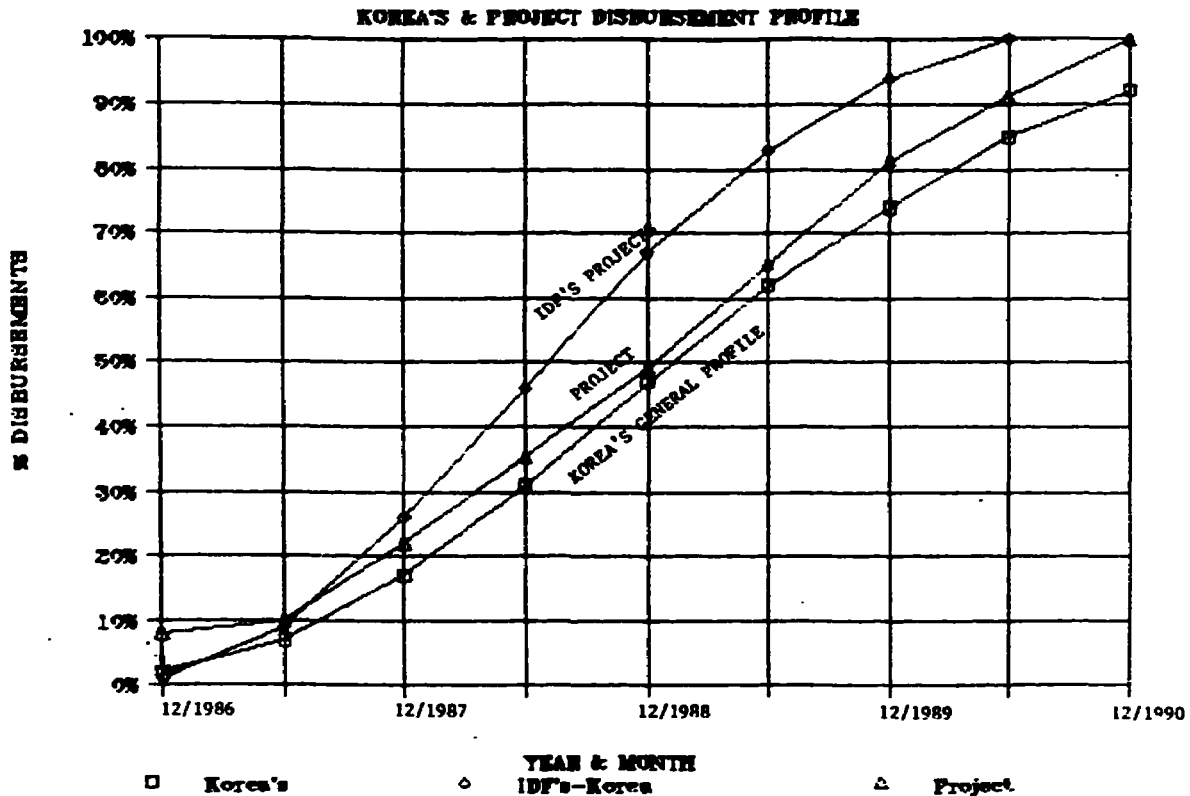
KOREA

URBAN LAND DEVELOPMENT PROJECT

DISBURSEMENT SCHEDULE 1]
(US\$ Million)

Bank's Fiscal Year	Year and Semester Ending	— DISBURSEMENTS — Semester	Cumulative	— DISBURSEMENT PROFILE — Korea's (General)	Korea's (IDF)	Project's
	31-Dec-86	12	12	2.0%	1.0%	8.0%
1987 1]	30-Jun-87	3	15	7.0%	9.0%	10.0%
	31-Dec-87	18	33	17.0%	26.0%	22.0%
1988	30-Jun-88	20	53	31.0%	46.0%	35.3%
	31-Dec-88	21	74	47.0%	67.0%	49.3%
1989	30-Jun-89	24	98	62.0%	83.0%	65.3%
	31-Dec-89	24	122	74.0%	94.0%	81.3%
1990	30-Jun-90	15	137	85.0%	100.0%	91.3%
1991	31-Dec-90	13	150	92.0%		100.0%

1] Includes the initial disbursement of \$ 12 million for the Special Account



KOREA

URBAN LAND DEVELOPMENT PROJECT

Financial and Economic Analysis

KLDC's Past Financial Performance

1. With a paid-in capital of W 229 billion (in 1985), KLDC is the fifth largest government-owned corporation and the thirteenth by number of staff. KLDC is owned by the Government (91%) and the Korea Development Bank (9%). Its authorized capital is W 500 billion (\$568 million). KLDC has been growing rapidly, and its total assets increased 12 times between its establishment in 1979 and 1984, from W 76 billion to W 940 billion.

2. KLDC's financial performance during this period of exceptional growth has been good (See Tables 1 to 6). This is a result of increases in land prices, which averaged 7% p.a. above inflation in the main cities between 1980 and 1984, and high demand for land as well as adequate management, proper control of expenses, and efficient execution of projects. KLDC's net income has been positive and increasing continuously since 1979, from W 6.5 billion in 1980 to W 37.1 billion in 1984 and W 45 billion in 1985. KLDC had a solid financial position in 1985, with net profits before taxes of W 166 billion, equivalent to 36% of its equity and 45% of its sales. These profits are, however, partially due to inflation since the cost of the developed land (which was purchased and developed some years before) is not adjusted with inflation. KLDC's debt in 1984 was higher than its equity (debt-to-equity ratio of 1.3), but was reduced to 0.9 in 1985. Its debt service coverage is good (2.7 in 1984 and 5.3 in 1985) and its internal cash generation, net of debt service, provided W 311 billion (73% of its total investments). KLDC received the best evaluation among the 23 Government-invested corporations in Korea in Korea, mainly because of its financial performance,

3. Government equity contributions were very important for the establishment and initial growth of the corporation. Equity contributions peaked at W 70 billion in 1981, but have diminished to W 40 billion in 1982, W 20 billion in 1983 and W 15 billion in 1985. The development of new towns, in particular Doosan in Taejeon, would require additional equity contributions estimated at W 20 billion. KLDC's investments increased from W 62 billion to W 427 billion between 1980 and 1985, totalling W 1,610 billion during these six years. However, forty percent of these investments were to purchase already developed but idle land, which was being held by industries or individuals. This program of land transactions was established to reduce land speculation, improve the cash position of industries holding this land, especially during the 1980-82 recession, and increase the supply of urban land for housing. The program is almost completely financed by debentures or equity contributions. KLDC issues two types of land debentures: (a) land bonds paid to landowners, which carry an interest rate of 8% per year and have a maturity of two years; and (b) general bonds for idle business-owned lands, which carry an interest rate of 7%, payable in five years upon maturity. These interest rates are somewhat below market rates, but are

attractive to land owners, because they are exempted from capital gains, and land and income taxes, and because these debentures can be easily traded in the marketplace.

KLDC's Future Financial Performance

4. KLDC acquires land and sells it, after servicing, at a price which recovers all costs and, if possible, makes a profit. However, it takes up to four years between the acquisition and the supply of serviced land, and, like a private developer, KLDC's profitability depends on the success of the individual development sites undertaken. This is influenced by factors such as location, development potential, the efficiency of development, the time required to sell the developed site and the prevailing market conditions. Therefore, KLDC's viability and financial results in any given year depend upon having correctly selected and evaluated sites four years before. The PSIDP includes criteria for individual site selection and evaluation to minimize potentially unprofitable sites and to achieve full cost recovery. This would provide better tools to judge the profitability of sites, set pricing policies, and establish procedures to calculate the selling price for public and private users. In accordance with Government's social objectives, and to make housing affordable to low-income persons, land for public housing would be sold at cost, while the remaining land would be sold at market prices. To protect its financial position, KLDC would not incur any additional long-term debt without prior Bank concurrence, unless its debt service coverage exceeds 1.3 in any calendar year (para. 2.06).

5. KLDC is proposing to improve and expand its activities to cope with the increasing demand for land and promote the orderly urbanization of Korea (Annex 4). This requires investments of W1,827 billion between 1986 and 1989, equivalent to four times its total assets in 1984. Detailed financial projections (Tables 1 to 5) summarize the financial forecasts for KLDC. Some other 20 additional tables, available in the Project File, provide the details used for this integrated forecast model. The main assumptions are explained in Annex 7. These projections show that KLDC would be able to finance about 76.5% of its investment program from internal cash generation, through the sale of land. As explained above, sales during the next three years would be the result of the completion of ongoing sites and the sale of part of the transaction land. Land inventories at end-1985 are valued at W 1046 billion, 94% of the total assets of the corporation.

6. Land sales are recorded only when land transfer have been completed. Buyers are required to pay at least 40% when the sale is agreed, which is accounted as "advances received" (W 131 billion in 1985), until the sale is formalized. Similarly, the interest during construction is not capitalized but charged to operations, which results in a postponement of taxes and a reduction of the apparent profitability, especially when large, debt-financed investments are undertaken.

7. Financial projections for the period 1986-92 indicate that KLDC's financial position would continue to be good. Selling and administrative expenses would be about 2% of sales, the debt service coverage would exceed 1.9, net income on sales would average 28%,

income before taxes would average 19% of equity, debt would be less than 50% of debt plus equity and would be reduced to less than 30% after 1991, with KLDC depending mainly on its internal cash generation for operation and investments. This assumes that the overall time from land acquisition to supply would improve somewhat over present patterns. The construction cycle is longer for large sites, but KLDC is now planning to develop some small sites, which would result in faster inventory turnover. Another important variable is the real increase in the price of land (assumed to be 2% p.a.). Present experience indicates much higher increases (about 7% p.a.), which would be favorable to KLDC because of its extensive land inventories. However, if Government were to change existing laws protecting agricultural or green belt areas, or if there were a long housing recession period, land prices would be stable or could even fall, reducing KLDC's financial performance.

8. Financial Sensitivity Analysis. The results of an analysis of the sensitivity of KLDC's financial results to changes in some key variables for the period 1986-92, are summarized below:

(a) Present financial forecast:

VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE
Cash (Won Billion)	34	286	167
Operating Income on Sales	28.7%	33.5%	30.1%
Net Income on Sales	23.7%	29.3%	27.8%
% Income before Tax on Equity	16.8%	24.8%	18.7%
Debt Service Ratio	1.9	9.0	5.7
Debt on Debt plus Equity	16.8%	43.5%	27.4%
Contrib.to Capital Expenditure	56.3%	97.8%	89.6%

(b) Estimated prices for land are very critical, if every year the prices for land sold are 10% lower:

VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE
Cash (Won Billion)	-112	78	-31
Operating Income on Sales	22.2%	29.3%	23.9%
Net Income on Sales	17.9%	25.7%	22.1%
% Income before Tax on Equity	13.7%	21.2%	15.6%
Debt Service Ratio	1.7	8.1	5.2
Debt on Debt plus Equity	20.1%	44.5%	30.0%
Contrib.to Capital Expenditure	46.0%	87.5%	79.6%

- (c) Sales depend on KLDC's development cycle which requires three years (20%, 50%, and 30%), and the supply cycle which requires four years (0%, 40%, 45% and 15%). These variables are extremely critical to KLDC's finances. For example, if the supply cycle is slightly faster, i.e. 10%, 40%, 40%, 10%, KLDC's cash position improves considerably (but some profit indicators are lower, due to less inflationary gains), as follows:

VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE
Cash (Won Billion)	36	361	194
Operating Income on Sales	23.8%	26.7%	25.1%
Net Income on Sales	18.5%	25.3%	23.4%
% Income before Tax on Equity	15.3%	20.7%	17.3%
Debt Service Ratio	1.9	9.2	5.8
Debt on Debt plus Equity	18.3%	44.6%	29.0%
Contrib.to Capital Expenditure	56.9%	99.8%	91.3%

9. Measures to strengthen KLDC's management information and accounting systems are also a part of the institutional development program included in the project. KLDC is planning to improve its accounting, financial planning, and management information systems, as well as to increase the quantity and quality of the financial staff, and study measures to improve its financial management. During project execution, studies would be carried out to determine the computer hardware and software required for the Corporation and to implement computer programs for general accounting, payroll, inventories, etc. Microcomputers would also be purchased for planning and management information. An integrated computer projection of KLDC's investment programs, and overall activities, financial statements, management graphs and monitoring indicators would be used to update KLDC's financial plans and long-term projections, which would be presented annually to the Bank (para. 3.10).

10. Economic Analysis. The economic evaluation of each site requires a minimum economic rate of return of 11%. The main subprojects to be undertaken between 1986-87 show an Economic Rate of Return (ERR) of 13% to 40%. An analysis was made of the total land to be acquired between 1985 and 1989, and of the time and expense required to develop and sell it. The ERR based on the average unit cost of acquisition and development, the estimated market prices for land, and the real price increases in land (averaging 2% p.a.) due to its increasing scarcity, is 16% (Table 6). Sensitivity analysis shows that if the development costs are 15% higher the ERR is 13%. In the improbable circumstances that the prices for the land supplied decline by as much as 10%, and, simultaneously, the development costs are 15% above estimates, the ERR would be 5%. However, in this case, KLDC would take corrective action by eliminating lower return investments from its program. If no increases in land prices are included, the ERR is 15%. The implementation of the social pricing policy explained in Annex 1, would result in KLDC's average selling price of about 20% below market prices. The incremental financial rate of return, based on these prices and including tax expenses is 8%, which is well above the real cost of capital to KLDC (Table 6).

KOREA

ANNEX 6 - TABLE 1

URBAN LAND DEVELOPMENT PROJECT

INCOME STATEMENT 1)

Billion Won

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total Land Acquisition- 000 sq m	14511	11714	15458	11475	11085	11581	10882	11583	12522	13578
Land Development - 000 sq meters	7388	7278	7523	8814	10129	9170	8277	8153	8514	10485
Land Redevelopment - 000 sq m	0	0	0	17	13	12	12	12	10	10
Land Supply - 000 sq meters	13774	22727	21635	13071	13987	13118	12832	12873	12738	13410
Land Sold - 000 sq m	NA	11833	18327	12571	14573	13289	13008	12748	12735	13202
TOTAL SUPPLY - BILLION WON	209.874	336.728	357.552	486.585	507.076	548.805	518.823	558.444	603.180	626.882
Develop. Land Supplied	113.812	221.708	245.312	434.500	451.930	488.077	514.288	580.032	684.592	806.200
Other Land & Build. Supplied	95.862	115.020	112.240	52.085	55.146	78.728	102.325	68.412	118.588	122.682
SALES OF LAND:	119.838	181.023	398.485	453.246	489.214	534.012	582.501	640.160	752.895	847.835
Developed Land Sales	15.222	107.786	317.085	375.383	427.782	461.480	488.817	552.890	648.851	780.282
Other Land & Renew. Build. Sold	103.780	72.321	81.150	78.413	59.831	70.854	82.437	75.742	102.529	85.467
Rent & Other Income	0.834	0.916	1.220	1.450	1.501	1.588	1.847	1.728	1.815	1.905
COST OF SALES	87.804	132.289	220.380	282.845	334.862	380.398	412.384	440.507	521.158	586.418
Cost Developed Land Sold	11.811	81.883	183.285	222.586	286.342	303.227	337.985	379.439	438.822	517.480
Cost of Other Land Sold	85.884	49.887	58.728	70.000	47.945	56.763	73.950	80.583	82.023	89.373
Services & Other Costs	0.329	0.528	0.337	0.349	0.375	0.408	0.438	0.475	0.514	0.555
GROSS PROFIT	22.132	48.734	178.105	160.301	154.352	173.618	180.517	189.654	231.836	261.216
SELLING & ADMIN. EXPENSES	6.718	6.778	7.670	8.421	9.014	8.783	10.586	11.412	12.474	13.550
Personnel (Administrative)	3.214	3.157	3.400	3.782	4.008	4.312	4.838	4.989	5.388	5.772
Severance Expenses	0.770	0.408	0.885	0.581	0.895	0.813	0.915	1.008	1.108	1.203
Overhead	2.281	2.439	2.702	2.834	3.127	3.363	3.818	3.891	4.186	4.502
Other Expenses	0.303	0.575	0.680	0.924	0.983	1.039	1.172	1.251	1.526	1.755
Depreciation	0.170	0.187	0.223	0.208	0.220	0.238	0.254	0.272	0.290	0.308
OPERATING INCOME	15.414	41.948	170.435	151.880	145.338	164.835	169.921	188.242	219.363	247.666
OTHER INCOME	19.118	25.774	32.036	31.088	38.889	42.082	48.243	51.003	51.694	60.138
Interest on Sales Receivables	9.886	14.284	20.011	25.000	33.314	35.857	39.250	43.578	47.052	55.345
Other Interest	8.121	7.087	8.865	3.028	1.731	1.817	1.908	2.003	2.103	2.208
Other Income	1.011	3.703	3.080	3.060	3.855	4.288	5.085	5.422	2.539	2.585
OTHER EXPENSES	22.828	19.288	36.855	30.184	51.060	29.058	38.942	25.052	28.719	23.757
Interest Expenses	20.089	19.204	24.984	29.164	50.025	27.874	35.807	23.858	27.467	22.442
Other Expenses	2.537	0.082	11.871	1.000	1.035	1.082	1.135	1.192	1.252	1.315
INCOME BEFORE TAXES	11.908	47.716	166.516	152.804	133.378	176.859	179.221	214.193	242.338	284.048
Income Taxes	1.018	10.583	21.464	19.885	17.338	22.882	23.289	27.845	31.504	36.828
NET INCOME	10.890	37.133	145.052	132.919	116.039	153.977	155.932	186.348	210.834	247.122
RATIOS AND COMPARATORS										
Operating Income on Sales	12.8%	23.2%	42.8%	33.5%	29.7%	30.7%	28.7%	29.4%	29.1%	29.2%
Gross Profit on Sales	18.5%	26.8%	44.8%	35.4%	31.6%	32.5%	30.4%	31.2%	30.8%	30.8%
Net Income on Sales	9.1%	20.5%	38.3%	29.3%	23.7%	28.8%	26.3%	29.1%	28.0%	29.2%
Income Before Tax/Equity	4.7%	15.8%	36.0%	24.8%	18.2%	19.8%	17.1%	17.3%	16.8%	16.8%

1) Due to rounding, the last digit in totals may appear different than the sum of columns.

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KOREA

ANNEX II - TABLE 2

URBAN LAND DEVELOPMENT PROJECT

SOURCES AND APPLICATIONS OF FUNDS

Billion Won

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
SOURCES OF FUNDS										
Sales Less Sell. & Serv. Expense	113.058	173.915	391.881	444.685	480.045	524.078	582.119	628.545	740.286	833.837
Other Income/Expenses (Net)	15.583	14.389	-1.399	10.223	20.525	17.888	21.809	21.988	18.838	21.893
Non Cash Expenses	0.170	0.197	0.223	0.208	0.220	0.236	0.254	0.272	0.290	0.308
Prior Year Income Adjustments	0.171	-1.047	0.398							
NET INTERNAL SOURCES	128.983	187.454	390.901	455.117	500.790	542.303	604.181	650.783	759.425	856.043
Sale of Fixed Assets		0.225	0.418	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Equity Contributions	20.000	10.000	15.000	20.000						
IBRD Urban Land Loan	0.000	0.000	0.000	18.208	36.584	36.228	36.585	0.000	0.000	0.000
Land Bonds (Ordinary Bonds)	34.880	34.831	39.445	23.840	19.555	20.544	21.571	22.849	23.782	24.971
Bonds for Debt Repayment	30.451	48.578	13.440	28.560	24.457	25.880	26.984	28.312	28.727	31.214
Government Loans	0.000	0.000	0.000	0.000	10.000	0.000	0.000	0.000	0.000	0.000
National Housing Loans	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Public Bonds	0.000	0.000	0.000	20.000	0.000	0.000	0.000	0.000	0.000	0.000
IBRD Loans 1 & 2	9.876	16.058	20.876	14.003	0.000	0.000	0.000	0.000	0.000	0.000
Other Loans & Financed Interest	9.247	30.677	11.120	14.545	12.757	9.707	8.818	8.618	9.217	9.034
TOTAL BORROWING	84.234	131.145	84.883	118.848	103.373	92.158	93.918	99.577	92.728	95.219
TOTAL SOURCES OF FUNDS	233.197	328.624	481.202	585.084	604.163	634.461	698.097	710.360	822.251	921.261
APPLICATIONS OF FUNDS										
Land Acquisition for Development	88.378	141.712	278.890	235.535	268.884	313.128	367.482	435.028	515.020	609.720
Land Development	45.197	51.795	72.185	91.041	91.484	90.585	98.124	107.751	120.841	138.571
Land Redevelopment	0.268	14.348	7.882	12.000	8.640	7.000	7.380	7.728	8.080	8.485
Engineering & Overhead	3.685	4.174	5.378	5.175	5.452	5.738	5.875	6.485	7.345	8.487
Land Acquisition for Transaction	89.031	115.415	81.946	59.100	48.914	51.359	53.927	56.624	59.455	62.427
Fixed Assets & Inst. Development	1.083	0.253	0.213	0.200	0.300	0.400	0.400	0.400	0.400	0.400
TOTAL CAPITAL EXPENDITURES	227.661	327.697	426.484	403.051	421.674	468.169	534.148	614.027	711.151	829.110
Amortization	55.693	51.425	48.465	77.708	217.455	74.898	98.608	53.848	86.340	73.055
Operational Interest	20.088	19.204	24.984	28.184	50.025	27.974	35.807	23.859	27.487	22.442
TOTAL DEBT SERVICE	75.782	70.629	73.449	105.892	267.480	102.870	134.415	77.705	113.827	95.498
WORKING CAPITAL NEEDS 1/	-55.239	-65.087	5.771	-18.075	-2.773	-18.970	-20.458	-16.808	-43.266	-40.966
OTHER ASSETS/LIABIL. CHANGES	7.439	-3.401	-21.447	0.759	-1.264	-1.431	-1.488	-1.804	-1.817	-2.064
TOTAL APPLICATIONS OF FUNDS	255.643	329.658	484.257	491.808	685.116	582.468	646.807	673.320	780.075	881.579
CASH INCREASE (+) OR DECREASE	-22.446	-1.034	6.945	103.456	-80.953	82.002	51.480	37.040	42.176	39.683
Contrib. to Capital Expenditures	44.4%	58.6%	78.2%	90.9%	56.3%	97.8%	92.1%	96.3%	97.1%	96.8%
Debt Service Ratio	1.7	2.7	5.3	4.3	1.9	5.3	4.5	8.4	6.7	9.0

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KOREA

ANNEX 6 - TABLE 3

URBAN LAND DEVELOPMENT PROJECT

BALANCE STATEMENT

Billion Won

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Cash & Banks	3,327	4,371	11,318	114,772	33,819	115,820	187,310	204,350	248,528	288,203
Receivables on Land Sold (net)	40,158	33,817	38,880	58,880	84,403	70,308	78,075	84,905	98,183	111,878
Marketable Securities	25,889	23,883	0,020	0,020	0,020	0,020	0,020	0,020	0,020	0,020
Advances to Contractors	1,854	1,782	0,777	0,777	0,804	0,840	0,882	0,927	0,973	1,021
Other Current Assets	1,166	0,485	3,488	1,823	1,823	1,823	1,823	1,823	1,823	1,823
TOTAL CURRENT ASSETS	72,398	63,908	54,271	177,082	100,868	188,813	248,111	291,426	348,536	400,752
Inventory Developing Land	401,583	516,828	709,638	818,781	888,268	1004,472	1138,838	1308,774	1813,369	1753,857
Inventory Transaction Land	248,228	323,480	336,881	337,781	348,380	348,988	334,323	338,082	323,803	328,152
TOTAL LAND INVENTORY	648,818	840,418	1046,317	1156,572	1243,658	1351,458	1473,261	1646,856	1836,982	2079,809
Fixed Assets in Operation	4,787	4,743	4,538	4,738	5,038	5,438	5,838	6,238	6,838	7,038
Accumulated Depreciation	0,487	0,844	0,887	1,078	1,288	1,531	1,785	2,057	2,347	2,854
NET FIXED ASSETS	4,270	4,089	3,671	3,662	3,742	3,907	4,053	4,181	4,281	4,384
Receivables on Land Sold (net)	27,818	5,523	1,078	3,140	3,380	3,700	4,108	4,437	5,221	5,878
Restricted Bank Deposits	0,000	18,301	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Other Assets	8,853	7,848	10,840	10,840	10,840	10,840	10,840	10,840	10,840	10,840
TOTAL ASSETS	757,758	940,198	1115,977	1351,086	1382,289	1558,518	1740,174	1957,539	2205,850	2501,462
Advances Received	184,585	198,603	132,470	170,288	177,477	181,382	215,818	230,455	281,113	325,112
Other Accounts Payable	17,142	31,238	82,037	84,208	87,088	70,453	73,875	77,674	81,558	85,838
Income Taxes Payable	0,884	10,482	21,484	19,885	17,339	22,982	23,289	27,845	31,504	38,828
Current Matur. Long-Term Debt	41,488	39,815	77,708	217,455	74,688	98,808	53,848	88,340	73,088	73,056
TOTAL CURRENT LIABILITIES	224,087	278,138	283,679	471,828	338,608	383,434	368,838	422,314	467,231	520,730
Accrued Severance Indemnities	3,303	4,205	5,587	8,900	8,413	10,158	12,083	14,184	16,585	19,316
Other Liabilities	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Long-Term Debt (net)	278,458	366,038	384,320	288,911	284,894	277,014	315,058	288,934	276,125	288,762
TOTAL LIABILITIES	503,348	638,382	653,598	735,537	629,717	670,604	694,059	722,442	759,950	808,808
Capital	203,943	213,843	228,943	248,843	248,843	248,843	248,843	248,843	248,843	248,843
Retained Earnings & Reserves	48,888	87,873	233,438	388,588	483,638	638,970	787,172	988,154	1198,758	1443,711
TOTAL EQUITY	253,811	301,816	482,381	615,529	732,582	887,813	1046,115	1236,987	1445,898	1692,554
TOTAL EQUITY AND LIABILITIES	757,758	940,198	1115,977	1351,086	1382,289	1558,518	1740,174	1957,539	2205,850	2501,462
Current Ratio	2.1	2.1	2.6	2.1	3.0	3.1	3.8	3.8	4.0	4.1
Working Capital Billion W	249.9	302.7	470.2	524.0	882.5	809.9	1020.1	1177.8	1384.7	1633.7
Debt Equity Ratio	1.3	1.3	0.8	0.8	0.5	0.4	0.4	0.3	0.2	0.2
# Days Accounts Receivable	122	68	35	48	48	48	48	48	48	48

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ANNEX 8 - TABLE 4

URBAN LAND DEVELOPMENT PROJECT

FINANCING PLAN

Billion Won

	TOTAL	% OF TOTAL	1986	1987	1988	1989
NET INTERNAL SOURCES	2102.4	115.1%	455.1	500.8	542.3	604.2
Sale of Fixed Assets	0.0	0.0%	0.0	0.0	0.0	0.0
MINUS:						
Amortization	428.5	25.6%	77.7	217.5	74.7	98.6
Operational Interest	143.0	7.8%	29.2	50.0	25.0	38.8
TOTAL DEBT SERVICE	511.4	33.5%	106.9	267.5	102.7	134.4
WORKING CAPITAL NEEDS (+)	-59.3	-3.2%	-10.1	-2.8	-17.0	-20.5
OTHER ASSETS (+) OR LIAB.NEEDS	-3.4	-0.2%	0.8	-1.3	-1.4	-1.5
CASH INCREASE (+) OR DECREASE	156.0	8.5%	103.5	-81.0	82.0	51.5
NET INTERNAL CASH GENERATION	1397.7	75.7%	263.1	319.3	376.0	440.2
CAPITAL EXPENDITURES						
Land Acquisition for Develop.	1185.0	84.8%	235.5	268.9	313.1	367.5
Land Development	372.2	20.4%	91.0	91.5	90.6	99.1
Engineering & Overhead	17.8	1.0%	4.1	4.4	4.8	4.7
TOTAL PROJECT INVESTMENTS	1575.0	86.2%	330.7	364.7	408.3	471.3
Land Redevelopment	33.0	1.8%	12.0	6.8	7.0	7.4
Land Acquis. for Transactions	213.3	11.7%	59.1	48.9	51.4	53.9
Engineering & Overhead	4.4	0.2%	1.0	1.1	1.1	1.2
Fixed Assets & Inst.Developmen	1.3	0.1%	0.2	0.3	0.4	0.4
TOTAL CAPITAL EXPENDITURES	1827.1	100.0%	403.1	421.7	468.2	534.1
NET TO BE FINANCED:	429.4	23.5%	139.9	103.4	92.2	93.9
FINANCED BY:						
Proposed IBRD Loan	127.8	7.0%	18.2	36.6	36.2	36.6
Land Bonds	85.3	4.7%	23.6	19.8	20.5	21.6
Bonds for Debt Repayment	106.6	5.8%	29.8	24.5	25.7	27.0
Other Loans	89.8	4.9%	48.5	22.8	9.7	9.9
TOTAL BORROWING	409.4	22.4%	119.9	103.4	92.2	93.9
Equity Contributions	20.0	1.1%	20.0	0.0	0.0	0.0
TOTAL FINANCED	429.4	23.5%	139.9	103.4	92.2	93.9

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ANNEX 8 - TABLE 5

URBAN LAND DEVELOPMENT PROJECT

MONITORING INDICATORS

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Land Acquisition- 000 sq meters	14511	11714	15458	11475	11085	11581	10882	11583	12522	13578
Land Development - 000 sq meters	7385	7279	7523	8914	10128	9170	8277	9153	9514	10485
Land Redevelopment-000 sq meters	0	0	0	17	13	12	12	12	10	10
Land Supply - 000 sq meters	13774	22727	21635	13071	13887	13118	12832	12673	12738	13410
Land Acquisition- Billion Won	88.378	141.712	278.890	235.535	268.884	313.128	387.482	435.028	515.028	608.720
Land Development - Billion Won	45.187	51.785	72.185	91.041	91.484	90.585	99.124	107.751	120.841	139.571
Land Redevelopment - Billion Won	0.288	14.348	7.892	12.000	8.840	7.000	7.360	7.728	8.000	8.485
Land Supply - Billion Won	208.874	336.728	357.582	488.585	507.076	548.805	618.823	658.444	803.180	599
Land Sold - Billion Won	103.780	72.321	81.150	76.413	58.831	70.954	82.437	75.742	102.528	85.487

MANAGEMENT:

# Days Accounts Receivable	122	88	35	48	48	48	48	48	48	48
Number of Employees	820	869	869	982	990	983	986	990	1027	1080
% Increase # of employees		6.0%	10.4%	3.4%	-0.2%	-0.7%	-1.8%	2.4%	3.8%	5.2%
Employees/million sq m Developed	110.8	119.4	127.5	99.9	97.8	107.1	104.0	108.0	107.8	103.2

FINANCIAL

Debt Service ratio	1.7	2.7	5.3	4.3	1.9	5.3	4.5	8.4	6.7	9.0
Debt Equity Ratio	1.3	1.3	0.9	0.8	0.5	0.4	0.4	0.3	0.2	0.2
% Debt on Debt plus Equity	55.6%	56.7%	48.3%	43.5%	32.8%	28.7%	28.1%	23.2%	18.5%	16.8%
Gross Income on Sales	18.5%	26.9%	44.8%	35.4%	31.6%	32.5%	30.4%	31.2%	30.8%	30.8%
Operating Income on Sales	12.8%	23.2%	42.8%	33.5%	29.7%	30.7%	28.7%	29.4%	28.1%	29.2%
Income before Tax on Equity	4.7%	15.8%	36.0%	24.8%	18.2%	19.8%	17.1%	17.3%	18.6%	18.8%
Net Income on Sales	8.1%	26.5%	36.3%	29.3%	23.7%	28.8%	26.3%	28.1%	28.0%	28.2%
Sales on Inventories	18.5%	21.5%	38.2%	39.2%	39.3%	39.5%	40.2%	38.9%	41.0%	40.8%
Personnel Cost/Field Staff Cost	2.047	1.939	1.798	1.843	1.865	1.887	1.950	1.929	1.887	1.827
Administrative Expenses on Sales	5.6%	3.7%	1.8%	1.9%	1.8%	1.8%	1.8%	1.8%	1.7%	1.6%
% Contrib.to Capital Expenditure	44.4%	56.6%	78.2%	80.9%	56.3%	87.8%	92.1%	96.3%	97.1%	96.8%

CRITICAL FINANCIAL INDICATORS FOR THE PERIOD 1986-1992:

VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE
Cash (Won Billion)	34	286	167
Operating Income on Sales	28.7%	33.5%	30.1%
Net Income on Sales	23.7%	29.3%	27.8%
% Income before Tax on Equity	18.8%	24.8%	18.7%
Debt Service Ratio	1.9	9.0	5.7
Days Accounts Receivable	48	48	48
Debt on Debt plus Equity	16.8%	43.5%	27.4%
Contrib.to Capital Expenditur	56.3%	97.8%	89.6%

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ANNEX 8 - TABLE 8

URBAN LAND DEVELOPMENT PROJECT

INCREMENTAL FINANCIAL RATE OF RETURN

(Billion Won - Prices of January 1988)

YEAR	LAND DEVELOPMENT & SUPPLY 000 SQ M			LAND ACQUISITION COST 1000 PPS 88 M	PROJECT EXPENDITURES				TOTAL COST	PROJECT BENEFITS		
	LAND ACQUISITION 1]	LAND DEVELOPMENT 2]	LAND SUPPLIED 3]		LAND ACQUISITION COST 4]	LAND DEVELOPMENT 5]	ENGINEER. & ADMINISTRATION 6]	General Admin. & Other 7]		LAND PRICE 10000/88 M 7]	LAND REVENUES 8]	NET BENEFITS 9]
1985	12788.0	2545.8	0.0	24.10	308.78	23.30	1.10	1.85	338.03	34.85	0.00	-293.28
1986	8875.0	9189.0	8091.2	24.34	218.48	74.35	3.52	8.38	308.62	38.88	178.80	-107.47
1987	9115.0	10128.5	8317.6	24.88	285.35	82.30	4.37	7.77	318.88	38.88	394.88	18.47
1988	8801.0	9170.2	8984.0	25.45	244.38	85.57	3.88	7.04	321.11	35.28	393.88	31.88
1989		7835.0	8288.4			88.67	3.88	5.78	81.38	37.78	380.88	298.88
1990		2880.3	5887.7			28.25	1.24	2.21	31.88	38.88	218.81	188.88
1991			1480.2					0.88	0.88	38.88	37.87	87.87
Present Value at 8% Discount Rate					905.41	387.72	17.45	31.88	1341.88	38.87	1484.14	138.24

The Financial Rate of Return using KLDC's average purchasing and selling prices 7.3%

ECONOMIC RATE OF RETURN (ERR)

(Billion Won - Prices of January 1988)

YEAR	LAND DEVELOPMENT & SUPPLY 000 SQ M			LAND ACQUISITION COST 1000 PPS 88 M	PROJECT EXPENDITURES				TOTAL COST	BENEFITS WITHOUT THE PROJECT			PROJECT BENEFITS	
	LAND ACQUISITION 1]	LAND DEVELOPMENT 2]	LAND SUPPLIED 3]		LAND ACQUISITION COST 4]	LAND DEVELOPMENT 5]	ENGINEER. & ADMINISTRATION 6]	General Admin. & Other 7]		Value of Increase Acquired Land Still Undeveloped 10]	Value of Increase Acquired Land without Project 11]	LAND PRICE 10000/88 M 11]	LAND REVENUES 12]	NET BENEFITS 13]
1985	12788.0	2545.8	0.0	24.10	308.78	23.30	1.10	1.85	338.03	308.78		41.82	0.00	-293.03
1986	8875.0	9189.0	8091.2	24.34	218.48	74.35	3.52	8.38	308.62	401.54	6.138	42.34	218.88	-88.71
1987	9115.0	10128.5	8317.6	24.88	285.35	82.30	4.37	7.77	318.88	488.88	10.848	43.88	401.48	88.61
1988	8801.0	9170.2	8984.0	25.45	244.38	85.57	3.88	7.04	321.11	488.24	10.817	44.18	488.87	74.74
1989		7835.0	8288.4			88.67	3.88	5.78	77.78	178.88	10.838	45.88	488.44	388.88
1990		2880.3	5887.7			28.25	1.24	2.21	29.78	38.88	4.478	46.88	288.88	288.71
1991			1480.2					0.88	0.88	0.888	47.88	48.48	88.48	87.88
Present Value at 8% Discount Rate					985.85	388.34	17.45	31.88	1412.78		41.85	41.82	1782.87	388.38

The Economic Rate of Return based on estimated market prices is 18.0%

SENSITIVITY ANALYSIS

ECONOMIC RATE OF RETURN

If development costs increase 15%	13.2%
If there are no real increase in land prices	14.8%
If development cost increases +15%, and the land benefits are reduced 10%	4.0%

MARGINAL COST ANALYSIS

Discount Rate	PRESENT VALUES OF:			MARGINAL COST--		
	Land Acquis. Bill. W	Land Develop. Bill. W	% Develop on Total	Land Sold 1000 sq m	Land Develop. W/sq m	Total W/sq m
8%	830.8	311.5	27%	28888	10.8	38.8
12%	784.5	278.2	27%	28881	10.8	40.7

- Based on the relationships used by KLDC for the schedule of land acquisition, development and supply.
- Using the above relations to fully develop and supply all the land purchased between 1985-88.
- Real annual increases in land prices would average some 2% (1% in 1985, 2% in 1987, and 2.5% p.a. thereafter).
- Assumed at W 8.8 thousand per square meter (including taxes), based on 1985 data.
- Based on the allocation of engineering expenses, estimated at 4% of development costs.
- Assumed 8% of the development cost (average 1985-88). Operational expenses are prorated between land transaction and development.
- Land prices are assumed to increase 2% in real terms.
- KLDC purchases by negotiation unreasoned area. Its market value is estimated to be 10% above financial prices/rj
- Excluding taxes, estimated at 8% of development cost.
- Without the project the undeveloped land continues to increase its value (3); this increase in value is excluded from the project benefits. After the land is supplied, the price increases in the supplied land would more than compensate the increases in the undeveloped land.
- Since KLDC sells about half of the land at cost (for low income housing), average market price is estimated to be 20% higher.

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URBAN LAND DEVELOPMENT PROJECT

Assumptions for Financial Projections

Inflation

1. Project cost tables assume that foreign price increases would be 7.2% in 1986, 6.8% in 1987 and 1988, 7% in 1989, and 7.1% in 1990. Local inflation between 1983 and 1985 has been only about 3%. Government efforts to curtail inflation are likely to hold inflation below the foreign inflation levels. The financial projections assume that local inflation would be about 4% for 1986 and about 5% thereafter. The exchange rate is assumed to adjust to maintain "purchasing power parity". The exchange rate for 1986 is assumed at W 880 per US dollar.

Financial Projections

2. KLDC's investment programs (Annex 4) and financial projections were developed by the appraisal team using computer programs tailored to KLDC's programs and financial condition. The main financial statements (Table 1 - Income, Table 2 - Flow of Funds, Table 3 - Balance, Table 4 - Financial Plan, Table 5 - Monitoring Indicators) and Table 6 (Economic and Financial Analysis) are presented in Annex 6. Additional tables, available in the project file, provide details of all the assumptions and intermediate results regarding land acquisition, development and supply, average cost and price of land, fixed assets, debt analysis, operational expenses, working capital and stock inventories. Therefore only the main assumptions are explained below.

Land Acquisition and Supply.

3. Detailed projections were prepared for the acquisition, development and supply of land by KLDC. Historical data (1980-84) and preliminary results for 1985 were collected for this purpose. These values were used to forecast trends and values for 1986-91. For 1986-87, the land acquisition was based on preliminary analysis of sites prepared by KLDC. The program of land acquisition for industrial sites would be completed in 1988. Land acquisition for housing is assumed to increase from 6 million sq m in 1986 to 10 million sq m by 1991. On the average, land development takes three years and is scheduled annually as 20%, 50% and 30% for each of the three years. The land acquisition cost is estimated based on 1985 data, and assumes that average land price increases would be 2% over inflation (1% in 1986, 2% in 1987 and 2.5% in 1988 and 1989. Land closer to downtown areas are preferred for housing, but are more expensive, resulting in unit costs which are higher for housing estates, than for industrial estates. The land supply (available for sale or already contracted) averages four years, with the cumulative land supplied reaching 0%, 40%, 85% and 100% during this period.

Income Statement

4. Sale of Land. KLDC recognizes sales only when the land has

been officially transferred (which may require more than a year of bureaucratic procedures). Moreover, for the land sold in long-term installments, only the annual receipts are recognized as sales. This a conservative procedure, which is accepted by Korean accounting standards, and which reduces taxes and the apparent financial performance of KLDC. However, KLDC collects payments (40% on the first and second years, and 20% in the third year), as soon as the basic agreement on the purchase of land is reached with a client. This results in considerable balances in the Advances Received account. The land supplied (contracted) is transferred, and accounted as sales in about three years, with 70% being sold in the year that the land is supplied, 20% in the second year and 10% in the third year. The sales of transaction land are scheduled to maintain a continuous supply, which is expected to reduce the stock of developed land from 41 million sq m to 21 million sq m between 1983 and 1989.

5. Cost of Sales. The cost of sales is computed based on the original costs of land acquisition, development and overhead for the land sold in a given year. Therefore, holding the land for a couple of years results in higher nominal profits which are mainly due to inflation. However, some real increases in unit prices for land are also expected varying from 1% in 1986 to 2.5% in 1988.

6. Personnel. The number of staff allocated to central or general administration, presently 425, is assumed to increase slowly over time, at about 1% per year. Most of the KLDC staff (534 in 1985) work in project-related activities, and their cost is added to the investment program as overhead. The number of project staff is estimated to increase at a rate of 60% in proportion to the increases in land acquisition, and 40% in relation with the development works. Assuming efficiency gains, and the proposed land development program, the project staff is expected to remain below 1,000 for the next few years. Unit personnel expenses are expected to increase roughly with inflation. Details of the number of new employees required based on historical trends, and on the new projects planned, are available in the Project File. Severance expenses are accrued at a rate of about 1.6 months per year of employment, and the total amount accrued also increases with the increase in salaries.

7. Other Expenses. Overhead expenses are estimated as 78% of the administrative personnel expenses. Other expenses are estimated as 0.17% of the value of the land supplied. Depreciation expenses assume a straight-line depreciation on fixed assets, over 2-25 years, averaging 4% for the projection period. KLDC pays corporation, inhabitant and defense taxes, which average about 13% of its net income before taxes.

8. Sources and Applications of Funds. The main source of funds is the sale of land. Net internal cash generation resulting from the sale of land is expected to provide three-fourths of the funds for capital expenditures between 1986 and 1989. Given the time-lag between land acquisition, development and supply, sales are the result of the previous years' projects and investments, rather than of the yearly investments. Borrowing is expected to finance some 22.4% of capital expenditures. This includes the proposed Bank loan and some disbursements from the two previous projects. The land acquisitions for the Land Transactions Program is almost completely financed by two

types of bonds or debentures: land bonds at 8% interest, payable in full after two years grace (used to pay the landowners and to reduce KLDC's financial requirements), and the bonds for debt repayment. In this case, Government funds are used to pay industries for idle land (which was purchased as investments by many Korean companies). The land is then transferred to KLDC, which after five years pays back the full amount at a simple interest rate of 7%. Government contributions of W 20 billion have been included in the 1986 budget. Further contributions may be needed to pay the cost of externalities to the Doosan Site in Taejeon City (Annex 8, para. 5). The overall loans and equity contributions are presented in Annex 5, Table 2. Further details on terms and conditions of these loans are presented in the detailed financial projections (available in the Project File). Details of KLDC's investment program are presented in Annex 3.

9. Balance Statement. Accounts receivable are based on the average payment schedule and installment sales and are assumed at about one month of sales. Accounts receivable earn interest at the commercial interest rates, presently 10.5%. The receivables due within one year are presented as current assets. Inventories are in nominal prices and are separated between developed and transaction land. Accounts payable to contractors average about one month of the annual capital expenditures, but are not recorded in the accounting records until its payment have been approved, reducing the magnitude of this account.

10. Financing Plan. The overall financing plan (Annex 5, Table 4) includes the proposed Bank loan for 15 years, including a grace period of 3 years, at the standard variable rate. The disbursement for debentures or Government loans in each year constitute a separate loan. With the exception of debentures for debt repayment, the interest is not financed but paid at the end of each year. Because of this, KLDC is not capitalizing the interest, which is charged annually to the income statement.

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URBAN LAND DEVELOPMENT PROJECT

Cost Allocation Study of Urban Land Development Project

Draft Terms of Reference

Background

1. The Government of Korea has an ambitious program to expand housing land to fill the housing deficit in urban areas, where, on the average, about two families are presently sharing one unit, and to provide the opportunity for most Koreans to own a house within the next fifteen years. In addition, the country's accelerated industrial development, coupled with high urbanization rates and increases in per capita incomes, is rapidly increasing the demand for industrial land to maintain the economic growth and to provide better housing and a good environment. The strongest demand for land is in the 50 largest cities, where most of the readily available and already serviced land has already been used, requiring expensive and long-term investment programs to make further land available in a timely fashion.

2. The Government has realized that the limited availability of urban land is becoming a critical constraint for the development of Korea and the welfare of the population. To solve these development problems, the Government established the Korea Land Development Corporation (KLDC) in 1978. The Corporation's growth to date and its development plans are impressive, with the land supplied in 1985 being 26 times the achievements of 1980.

3. Given the magnitude of investments in land and housing, the Government's policy aims at recovering the cost of land development from the beneficiaries purchasing the land. At the same time, KLDC's policy is to make housing affordable to the low-income population by providing the land for national housing units (i.e., those less than 25.7 py), at cost.

4. Land development costs can be drastically different, even in similar neighborhoods, due to the topographic features of the proposed site, the present zoning of the land and its distance from downtown, the vicinity and availability of services (transportation, water, drainage, power, etc.), site layout and density, etc. However, for costing purposes, a simple average cost is used for all plot units. Locational advantages within a different site result in market values as high as two or more times for the best sites compared with the worst located plots. An average cost for all areas may result in prices of land for low-income housing being higher than market prices, which is contrary to the objectives of the Corporation, and may result in unnecessary delays and possible cash problems for the Corporation due to lower marketability of some of these plots at that price. This pricing problem is typical for many commercial products, where the same cost and selling price cannot be applied to all physical units. Alternative pricing strategies would therefore be studied and tested under this study.

5. On average, about 75% of the land acquired is salable, with the remaining land being streets and public places. However, for the new town development programs, or for some new sites, the area of salable land may be reduced considerably, even below 55%, because of the need to provide for additional city needs, for example wider highways than required for the particular site, general parks or green areas, public squares or landscaped areas, which are provided not for the requirements of the purchasers of plots on that site, but are considered necessary for the city and even the country's development. The use of land for these purposes considerably increases the price of the salable land (i.e. the average price would be 36% higher if the salable land is 55% instead of 75%). This creates a financial risk for the Corporation and may result in many unsold plots and excessive cash requirements to be financed from internal resources. It is therefore important to provide a practical method for the allocation of these additional costs, which would provide the cities with an incentive to avoid wasteful use of land, or which will recover, from the local or national government, the costs which are not related to the direct beneficiaries.

6. To accelerate the availability of sites for housing and avoid some cost duplication in the preparation of land and services, KLDC has started to sell semi-developed plots, the development of which would be completed by the final purchasers. This approach would result in early delivery of housing units (which can be started simultaneously and do not require the completion of the total site) and would require less financial resources from KLDC, since part of the development cost would be undertaken by the housing developer, which would result in lower overall development costs. It is important to study the pricing policy for semi-developed land, taking into consideration the following factors:

- (a) the contract for sale of some of these plots may at an early stage , when the total costs are not fully established;
- (b) the development of these plots would be less expensive;
- (c) less financial resources would be needed;
- (d) the early sale of land to some users is likely to increase the demand and price for the remaining land on that site; and
- (e) early bidders are likely to request the best sites.

Objective

7. The main objective is to study the cost allocation problems discussed above and provide recommendations on a general methodology and procedures for sound pricing of land for:

- (a) the allocation of costs to the developed land, and its allocation to different areas within the same site;
- (b) the cost allocation, using the method of the lower of the benefits or the alternative cost, for sites where amenities, not directly required or associated with the beneficiaries or users of the salable land, are required to be provided;
- (c) the recommendation of pricing methods for semi-developed land, which would be sold to final users at early stages of development; and
- (d) applying the results of the study to typical sites and making recommendations on the share of the benefits and costs of the development of the Taejeon/Doonsan site allocable to the Central Government and Taejeon city.

Scope of Work and Execution of the Study

8. The study should analyze the present experience and cost practices of KLDC and provide practical recommendations for the general methodology to be used for cost allocation in the above-mentioned cases. It should also analyze the significance of differences in the cost of land sites and provide advice on the advantages or disadvantages of a uniform costing/pricing policy and alternatives to this policy. The study should recommend a policy with well defined criteria for distributing costs. The criteria should be simple to implement, economically sound and socially appropriate. The consultant should also prepare an example using the proposed pricing criteria for selected sites, in particular for the proposed Doonsan development site in Taejeon.

9. The scope of work should include the following activities:

- (a) gathering of data including land and development expenses in different sites, their time schedule, and the expected selling cycle;
- (b) studying present pricing policies and making recommendations for pricing procedures which would be economically sound, would maintain the financial viability of the Corporation, and be consistent with national policies and priorities;
- (c) making a detailed analysis of the policy of equal costing for all areas within the same site, its advantages or disadvantages for KLDC;
- (d) recommending pricing methods for selling semi-developed sites; and
- (e) analyzing the cost allocation of general benefits not

related to the direct beneficiaries of a given site and apply this to the proposed Doonsan site in Taejeon.

10. The study would be implemented by KLDC in coordination with the Economic Planning Board (EPB) and the Ministry of Construction (MOC), and a draft copy of the study would be made available to the Bank. Based on comments received, the consultant should complete the study and provide final recommendations for the pricing and cost allocation of land, and the share of cost of the Doonsan system to be allotted to the central or local Government. The final report should include the advantages or disadvantages of all the options considered and a clear methodology that could be used to implement the recommended cost allocation system if the land area, salable ratios, inflation, or investments are changed.

KOREA

URBAN LAND DEVELOPMENT PROJECT

Strengthening of KLDC's Financial Management and Corporate Planning

Draft Terms of Reference

Background

1. In response to Government's emphasis on urban housing development, KLDC has expanded the developed land supplied by the Corporation 26 times between 1980 and 1985. Annual investments increased from W 62 billion to W 427 billion during this period, and KLDC became one of the largest corporations in Korea. The proposed study would provide recommendations to strengthen KLDC's financial management, including staff increases, training, and the improvement of accounting, management information systems and long-term planning.

Objective

2. The objective is to study the present financial, accounting, budgeting, long-term planning and management information systems and provide recommendations for improvement.

Scope of Work and Execution of the Study

3. The study should analyze the present organization, systems and procedures for accounting, budgeting, financial and management information, as well as the existing and required organization and staffing.

4. The scope of work includes the following activities:

- (a) analyze KLDC's budgeting and financial accounting system with emphasis on analysis of the present organization and staffing, budgeting flows and procedures, updating, execution and settlement of the budget;
- (b) review the shortcomings of the present accounting and financial information system, in particular the accounting code, the information requirements from the Branch Offices, the standardization of accounting procedures in the Branch Offices, and the schedule and flow of information to headquarters;
- (c) review the present practices of accounting for installment sales, and for charging interest to operations or to the cost of the projects;

- (d) propose improvements for the classification and chart of

accounts, book keeping and accounting procedures, and the flow of information;

- (e) review the information requirements for proper costing of land development sites and for the allocation of overhead and general expenses;
- (f) analyze the needs for long-term financial planning and the information requirements to maintain accurate and updated plans. Review the weakness of the present system, both in terms of the required organization, staffing and training, and in terms of the flow of information, updated estimates for all subprojects under execution, and accurate forecasting of land acquisition, development, supply and sales;
- (g) review the present conditions and terms for land sales, and possible improvements to increase inventory turnover and cash flow;
- (h) review the present terms for land acquisition, and the possibility of using debentures, on commercial terms, to finance the acquisition of land for development; and
- (i) review the computer program for financial projections provided by the World Bank for the financial planning of KLDC and suggest recommendations or additions to facilitate its use by KLDC.

5. The study would be implemented by KLDC and a draft copy of the study would be made available to the Bank. Based on comments received, the consultant should complete the study and provide final recommendations for improvement of the overall financial and management information system.

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URBAN LAND DEVELOPMENT PROJECT

Documents Available in the Project File

1. Mission Working Papers.

- (a) Details of all land development sites (area, investments in land acquisition, and development) under construction or planned for 1986-87.
- (b) KLDC's investments program and project cost.
- (c) KLDC's financial projections and economic analysis.

2. Studies and Other Documents

- (a) Korea Land Development Corporation. Long Term Management Plan (1985-1991). November 1984.
- (b) Korea Land Development Corporation, Management Guideline, October 1985.
- (c) Korea Land Development Corporation, Land Statistics Yearbooks for 1983 and 1984.
- (d) Korea Research Institute for Human Settlements (KRIHS), Problems in Land Tax System and its Policy. January 1985 (in Hangul).
- (e) National Bureau of Statistics, Economic Planning Board, Korea Statistical Yearbooks for 1983 and 1984.
- (f) Economic Planning Board, Major Statistics of the Korean Economy 1984.
- (g) Ministry of Construction, A Study on Housing Problems and Policy Development in Korea. October 1985.
- (h) KLDC. Evaluation Plan Housing and Industrial Estates Project District. Seoul, 1986.
- (i) KLDC. Regulation for Management of the New Project Feasibility Deliberation Committee. December 30, 1985.

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URBAN LAND DEVELOPMENT PROJECT
Organization Chart of Korea Land Development Corporation
(November 1985)

